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MONTHLY MAGAZINE.

JULY, 1879.

OUR OPINIONS, we are glad to know, are watched and criticised. We would not like to talk to an unappreciative and unthinking audience. One good lady objects to the lawn scene at the head of this page, and suggests that young people should be more usefully employed than in games of croquet. People will not all think alike, nor look alike, nor do we wish to have them; but young people and young colts and young kittens have always been disposed to play, ever since the world began, we suppose, and always will. We are trying to the best of our ability to make instruction pleasant, and thus interest the young in the pursuit of knowledge. Another correspondent objects to the hopeful view we take of the world, and is thoroughly convinced that it is getting worse and worse, and instances several cases of crime and fraud as evidence clear that the world is rapidly going to the bad.

While acknowledging that this world of ours is not as good as it should be, considering all we have done for it, to say nothing of what others have done, we are sure that it is getting more beautiful every year, at least, so it looks to us. Flowers and beautiful plants, such as Eden never knew, are crowding out the thorns and thistles which started from that first garden to overspread and curse the world. Justice and right are driving into the dark corners of the earth injustice and cruelty; the fires of persecution are forever quenched, and man

no longer tortures his brother in the name of a loving and merciful Saviour. Pleasant homes are provided for the aged and infirm, and places of refuge and healing for the sick and suffering.

The cruel rod ever in the hand of the brutal schoolmaster of the olden time, that made childhood a season of fear and wretchedness, and the school a house of torture, is about numbered among the things of the past. We have a race of intelligent, thinking teachers, who recognize the rights and the individuality of the child. The old wooden benches are gone with the wooden-headed master, and the school-house has become a home of learning and the children's delight.

We cannot say that the nations learn war no more, but the world is not filled with wars, as in former days. War is the exception and not the rule. No civilized nation would dare make war without trying to show to the world some good cause, while the wise system of arbitration is becoming every year more popular. Justice, it is said, is not speedily and surely administered, and transgressors go free, and this doubtless is true to some extent; but this is much better than the cruel laws of former days, when life was taken for the most insignificant crimes, and hanging became a Friday's entertainment.

Even our summer pleasure resorts are losing much of their demoralizing characteristics, and becoming places of elevating and ennobling

pleasure. This is particularly true of our country. In Europe, we believe, something is being done to destroy the gambling that has so long been a curse to the most famous resorts. In America the places where horse-racing has been a permanent feature of amusement are on the wane; gambling, we think, has never been prominent anywhere. The most popular resorts, frequented by tens of thousands, are those under the control of moral and religious, and especially of Sabbath School Associations. At Chautauqua Lake we once saw ten thousand people in an out-door assembly listening to some of the ablest men of the land. Then there is Asbury Park, Ocean Grove, Martha's Vineyard, and Thousand Island Park, one of the most beautiful of the Thousand Islands, in the St. Lawrence river, and many others of a similar character. At the latter place, last season, we made an exhibition of flowers for the benefit of the hosts of visitors, and our friends were so well pleased with the display that they have made us promise to keep up a constant show the present summer, during July and August. Not wishing to trust to a tent for so long a time, we have prepared a building for this exhibition, an engraving of which we give, and which, we hope, will be pleasant and somewhat attractive. We shall also do something toward decorating the grounds with flower beds.

A little play, a day of recreation and relaxation, is not necessarily wasted time. Some flowering bulbs lie in the ground, apparently useless, a large portion of the year; for many months, and summer months, too, they bear no bright flowers, not even a pleasant leaf. They

are not idle, however, but gathering from earth and air, and dew and sunshine and shower, a precious store, to be changed by the mysterious alchemy of nature, into gems of loveliness. In its own good time the stately spire will arise from the earth, bearing aloft its floral chime, more beautiful than the world's philosophy ever devised, or its highest art can produce. Let us all, as nature teaches, rest awhile from labor and care, if we feel that we, too, like the flowers, have earned repose; and while we do so, lay up a little store of knowledge that will aid in making the future both pleasant and useful. It is easy to combine pleasure and instruction; indeed, we can hardly conceive of very great enjoyment from amusement that is not slightly flavored with instruction.

Those who leave their homes for summer recreation usually fly to the cooling waters—the ocean shore, or the inland lake. It is not our province to speak of the wonders of the ocean, but we thought a few facts regarding some of the beautiful and yet common plants which abound in our inland waters, and which our friends will be apt to meet in their rambles, might prove to be useful, and render the summer vacation more pleasant and instructive; so, in another article, we have given a description of some of the most interesting of our water plants, hoping thus to add both to the pleasure and profit of our readers. Some, doubtless, have on their grounds places where these aquatic plants would be at home, while others will rejoice that at least in their summer rambles they can enjoy the pleasure of a water garden.



WATER SITES AND WATER PLANTS.

How charming a feature in a landscape is water? Is it a little streamlet fed by mountain snows that now wanders slowly along through the verdant valley, cheering and refreshing with its presence the groups of grateful plants that cluster on its banks and lovingly nod their thanks as they are kissed by the gentle breeze; or is it the noisy, babbling brook, sparkling and



foaming, hurriedly rushing and tumbling to make its way to the creek below? Is it the deep, strong, quiet and smoothly gliding stream that, apparently conscious of its power, is content in dignified silence to do its honorable mission and bestow its numerous blessings? Is it the mountain or hill-side torrent that leaps from rock to rock, dashing itself into a sheet of spray, catching the sunbeams as they fall upon it, and reflecting them from millions of drops in the most brilliant rainbow hues, and then gathering itself up in its narrow, rocky channel, and speeding on its course for another exploit of its mad fantasy? Is it the mighty water-fall, dropping in one huge, continuous volume, making the earth tremble with its force, the clouds and the hills to echo with its thunder, and filling the atmosphere with a dense mist, while in the bed beneath the water boils like a cauldron? Is it the sleeping pond whose waters, tired with their former travel, seek here repose and companionship with the flowers before commencing again their long journey to join their kindred waters in the broad expanded lake or the wide, deep sea? If it be one or another of all these, it is a feature we look upon with satisfaction; one that gratifies the eye, and pleases the fancy. In our spacious and well-watered land how

many such spots there are that only need the application of taste, skill and labor to exhibit to advantage their natural graces, and to bestow upon them the additional ones that art supplies! In many cases the expenditure of either money or labor need not be great, but there should be no lack of good taste. To one having a water scene and wishing to beautify it, the question presents itself, what shall I do and what shall I leave undone? First, then, study the place; go often to it and place yourself in communion with it; note all its outlines and its special features; catch the idea of its individuality; see in what mood of your own it best befits you, and thus learn its true expression. When you have gained this, you have the key that, skilfully used, will solve all the problems connected with the work. "And now what," do you ask? Well, now do not mar what is already beautiful. If you should heighten an effect or add a grace you will do well, but be careful that you do not introduce some incongruous feature. Every touch of art must harmonize with nature; the unity of the place must be preserved. The underlying principle upon which all art is founded, whether it exhibits itself in music or painting or sculpture, or architecture or landscape-gardening, is the skilful adaptation of the several parts so that the expression of the whole work shall be clear and intelligible; so that it shall accord with good judgment. Keeping constantly in view the idea of fitness and harmony we shall be guided to consistent practices. Should we have to deal with an abrupt and somewhat steep bank, especially if the water be



deep, the first suggestion is a tree near the bank, that shall serve as a support and guard to one approaching the water's edge. If there be much length of such a margin, then it may be furnished with shrubs in some spots, trees in others, and some of it be left open; at the

banks, the favorite resorts will be about the trees, because there is safety; winding walks will naturally be made connecting the trees and receding from the shore line in their other parts; groups of shrubs or trees, according to the extent of the ground, will appropriately occupy the surface opposite the concave line of the walks. If the margin of the water be low and flat but not liable to be overflowed, it can be planted in some places with suitable herbaceous perennial plants close to the brink, and, in others, flowering shrubs, while here and there a tree relieves the line of the picture and adds its peculiar grace to the scene. A cape, in extent from one to a few acres, extending out into a



NYMPHÆA ODORATA.

lake or pond, or formed by an abrupt turn in a stream, may very properly be a continuous grove, for in this way it better conveys the idea of stability—an opposing force to the surrounding waters. On the contrary, if the formation be of quite the opposite character—the head of a bay—an open space at the deepest part would most naturally express the invitation to land, and the welcome one would wish to have to the arms of a sheltering haven. The trees and shrubs that should be planted in situations similar to those we have now supposed, will depend to a great extent upon the character of the surrounding grounds. What might be proper on the banks of a stream like the lower part of the Hudson, where smooth and

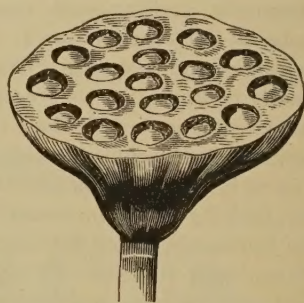
well-kept lawns and finely planted pleasure grounds extend to the water's edge, would not be consistent where the country is newer and



NELUMBIVM LUTEUM.

where the vegetation of the adjoining grounds is all, or mostly, that of the indigenous flora; if, however, the residence should be in close proximity to the water-scene, in whatever part of the country it might be, it would be quite proper to plant even to the margin with what are considered the finer cultivated ornamental trees and shrubs, but, should it be somewhat remote, then the planting should shade off as it recedes from the immediate vicinity of the dwelling and gradually take on the character of the native vegetation.

The Willow and the Poplar are eminently water-trees, and we have of them, native and



SEED VESSEL OF *NELUMBIVM LUTEUM.*

foreign, a very fine assortment from which to supply ourselves—the peculiarities of the particular kinds it is not our purpose now to allude



PONTEDERIA CORDATA.



SAGITTARIA VARIABILIS.

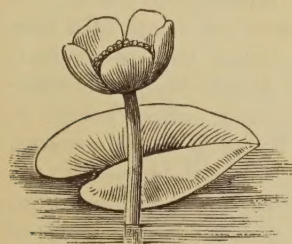
RANUNCULUS AQUATILIS.

to, but would merely mention that there are great differences of habit among them, adapting them to many various situations, and, by employing them with discrimination, fine effects can be produced. Another useful tree for the purpose we are considering is our native White Elm, whether planted near the brink of the water or at some distance back. There are also many cultivated varieties of the Elm of foreign



CALLA PALUSTRIS.

introduction of great value. Then we have the native Hornbeam, *Carpinus*, and the Wild Cherry, and the Bird Cherry, of the latter of which there are several fine varieties. The Ash furnishes numerous species, both native and foreign, that are excellent subjects for water margins. *Cornus florida* is a native low-growing tree, thriving admirably in low grounds. Besides those already mentioned the Alder, some kinds of Maple and the Birch can be used to good effect. Of Evergreens the Pines, Hemlock, Arbor-Vitæ, Spruces and Junipers must claim our attention. Among Shrubs we would notice our Wild Service or Shad Flower, *Amelanchier Canadensis*, and the European



NUPHAR ADVENA.

species, *A. vulgaris*. *Cornus sanguinea*, or Red-branched Dogwood, is a very ornamental shrub, on account of the blood-red color of its bark. *Diervilla trifida*, sometimes called Bush Honeysuckle, and the High Cranberry, *Viburnum opulus*, also *V. dentatum*, or Arrow Wood, and *V. obovatum* are excellent shrubs; so is the Button Bush, *Cephalanthus occidentalis*, and Leatherwood, *Dirca palustris*; but, perhaps, the one most prominent among our native shrubs, most suitable for the kind of planting we are considering, is the common Elder Bush, *Sambucus Canadensis*; its abundant white flowers and black berries render it highly attractive. The Scarlet Trumpet Honeysuckle, *Lonicera*

sempervivum, is a beautiful, hardy climbing plant, the habit of which is to clamber upon and over any neighboring shrub. Of similar mode of growth is *Clematis Virginiana*, bearing white flowers and conspicuous all the season by the feathery tufts of its seeds. Still another native climber prized for its flowers is *Wistaria frutescens*, but the glory of our climbers is the Virginia Creeper; this beautiful vine, clothing the body of a tree, or pendant from its branches



TYPHA LATIFOLIA.

overhanging the water, forms a most picturesque feature in a landscape.

Where there is no stream, pond, or other body of water, it is often the case that an unfailing spring, or some small stream at a little distance and on higher ground can be made the source from which an artificial fountain may have a regular supply of water. Such



ALISMA PLANTAGO.

fountains and their basins can be made to correspond to the surrounding grounds; in a rough place or wild-garden the border of the basin should be irregular, while near or adjoining trimly kept grounds the edge of the basin should be well defined and true. In such situations the fountain will look well if it be only a pipe running up in a sort of rockery, upon which suitable plants may

be grown. On a handsome lawn something more elaborate would be in good taste, but let the principal beauty consist in flowing water.

Handsome plants of a great variety are adapted to the shallow water of slow-running streams and ponds, and to the moist soil of the banks. Jean Ingelow sings in description of some "stilly pools,"

"—Round about them grows a fringe of reeds,
And then a floating crown of Lily flowers,
And yet within small silver-budded weeds;
But each clear center evermore embowers
A deeper sky, where, stooping, you may see
The little minnows darting restlessly."

The White Pond Lily, *Nymphaea odorata*, is of the first importance among water plants; its beautiful white and fragrant flowers and large leaves floating on the surface of the water render it a conspicuous and beautiful object, and one which has always justly received unbound-

ed admiration; *N. tuberosa* so nearly resembles it in appearance as to be scarcely distinguishable from it, but it has no odor, or only the slightest trace of it. A most fitting companion to the White Pond Lily is the *Nelumbium luteum*, with its pale yellow or straw-colored



CALTHA PALUSTRIS. MENYANTHES TRIFOLIATA.

fragrant flowers, eight or ten inches in diameter, and with leaves two to three feet across. It is a noble plant in all its parts; its pistil is very conspicuous, and, after the petals have fallen, the seed vessel with the enclosed seeds is an object of curiosity. What is commonly called the Yellow Pond Lily, *Nuphar advena*, is another handsome member of the same family and is very widely dispersed over the country. The Cat-tail, *Typha latifolia* or *T. angustifolia*, is a fine, erect plant, and the brown, velvety spadix, which is a compact cluster of flowers, is always an object of interest. The Pickerel Weed, *Pontederia cordata*, is a handsome water plant both in leaf and flower. The leaves are about a foot in length, oblong, and cordate at the base, supported on a long stem; the spikes of purplish-blue flowers are produced nearly all summer. This plant keeps nearer the margin and in shallower water than those previously mentioned, and this will also be true of those yet to be alluded to.

There are a number of kinds of Crowfoot



IRIS VERSICOLOR.

that grow in the water, and many more, still, that inhabit wet places, without actually being in the water. The White Water Crowfoot, *Ranunculus aquatilis*, is one of the best of those

always growing in the water. The flowers of this species are white, at least with the exception of a little yellow at the base of each petal. This is a plant widely distributed naturally over the country in the borders of ponds and slow-running streams. *Caltha palustris*, or Water Arum, is a handsome small plant, with cordate leaves three or four inches in length, and bearing its flowers on a spadix which is enveloped in a white spathe, something after the style of Egyptian Lily, *Calla Ethiopica*, or rather, *Richardia Africana*, although, of course, it is not so noble a plant as the latter. The Arrow-Head, *Sagittaria*, is an inhabitant of the borders of marshes and shallow water in all parts of the country. The most common species is *S. variabilis*, and a very pretty plant it is, too, with its arrow-head and scape of white flowers, which are borne all summer. The water Plantain, *Alisma plantago*, is closely related to the



ACORUS CALAMUS.

Arrow-Head. It has oblong, lanceolate leaves, which are sometimes heart-shaped at the base, and bears a panicle of flowers from one to two feet in height; the flowers are small, of a rosy white, and come the latter part of summer. *Caltha palustris* is our Marsh Marigold, sometimes called Cowslip, and, when young, is eaten for "greens." It has a handsome leaf, and the flowers, which are produced in the spring, are a bright yellow. The Buckbean, *Menyanthes trifoliata*, grows just at the edge of the water in the mud, the trifoliate leaves are supported by long cylindrical stems, and the flowers, produced late in the spring, are borne on a scape scarcely a foot in height. The flowers are white with a slight blush. The Large Blue-Flag, *Iris versicolor*, that grows in wet grounds and at the borders of water, is a handsome and interesting plant. Its leaves are long sword-shaped; the general color of the flowers is blue, but they are more or less streaked with white and yellow and shaded with purple; they are about three inches in length and are pro-

duced late in the spring and early in the summer; in our eyes they are quite as handsome as those of some of the cultivated varieties. The Sweet-Flag, *Acorus calamus*, grows in situations similar to the Iris; it is known to nearly every one on account of its pungent and aromatic rootstock.

All the plants that have now been particularly noticed are quite hardy, even in the northern sections of the country. Others might be mentioned that are very desirable, many of which, no doubt, suggest themselves to the minds of our readers.

The two kinds we will now call attention to are probably hardy from Virginia and the Ohio river southward, and if experimented with farther north would perhaps need to be removed in the fall and protected in winter. The first of these is *Thalia dealbata*, a native of South Carolina and other parts of the south. It is one of the most stately of water plants, growing about four feet high. It has large, ovate leaves, cordate at base, borne on long leaf-stems, and its panicles of purple flowers stand well up above the foliage, giving it a most elegant appearance. The Cape Pondweed, *Aponogeton distachyon*, is a native of the Cape of Good Hope, but is now cultivated in France and Great Britain, and is said to bear the coldest winters in England. The leaves are oblong, about eight or ten inches in length, of a beautiful green color, and float on the surface of the water or are slightly raised above it. The flowers are borne on a double or two-parted spike, and are white and of an agreeably sweet odor. It has been raised in tubs of water in

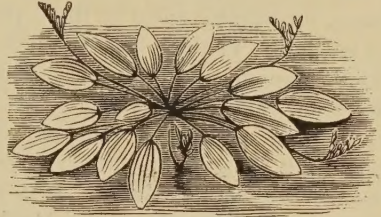


THALIA DEALBATA.

Philadelphia, and could be grown in this way anywhere; the French, however, have succeeded in raising it as a pot-plant and thus adapted it to more general cultivation. The method of doing this is briefly as follows: about the last of August take a large-sized pot, provide it with drainage and a soil of leaf-mold and loam, and in it plant a tuber. Set the pot in a rather close

frame and supply with water frequently. In about six weeks the plant will begin to push and then may be placed in the hot-house or in the warmest part of a conservatory. Here the plant will rapidly develop, and from the middle of November until spring will be covered with its fragrant white flowers. SMEE, in *My Garden*, says of Aponogoton, "It grows freely in a pan of water with soil at the bottom and flowers abundantly in the spring."

Before closing this subject it will be proper to notice a few of the most valuable plants for



APONOGETON DISTACHYON.

small-sized artificial aquariums. Of course one of the best subjects for this purpose is the Egyptian Lily, *Richardia Africana*, the merits of which are too well known to need a word in praise. Several kinds of Cyperus are excellent aquarium plants, especially *C. alternifolius* and a variety of the same species with striped foliage. The common Eel-Grass or Tape-Grass, *Valisneria spiralis*, is one of the most valuable aquarium plants on account of the great amount of oxygen it is constantly setting free in the water. The Water-Weed, *Anacharis Canadensis*, although not very pretty, is a very excellent plant for its purifying effect on the water. Frog's-bit, or *Limnobium spongia*, is another native plant that can be used to advantage. It has leaves from one to two inches in length, purple on the underside and swollen with spongy air-cells at the base. *Limncharis Humboldtii* is a South American plant with numerous branches and roots. It has sulphur-yellow flowers two or three inches in diameter, which are produced all the summer and autumn.

Besides adorning water-margins with fine plants much can be done in other ways—some waters will be fit for the introduction of gold-fish and other rare inhabitants of the watery world. Rare rocks and shells can be employed; little waterfalls can be made in some places; in some slow, still-running brooks, rocks and pebbles laid on the bottom will make it sing, and the ear will be delighted with

—"The low voice of water, as it makes
Like a glad creature, murmurings of delight."

Numberless devices will suggest themselves to one bent upon beautifying a water site.

ABUTILONS.

There is always a peculiar charm about pendant flowers. We all love the Fuchsia and Abutilon far more than other flowers with equal claims to beauty, but possessing less grace. Modesty is attractive in flowers as in folks. The Abutilon, several varieties of which we present in our colored plate, is one of the best of the drooping flowers and the most popular.

The Abutilon is one of the most serviceable, shrubby plants for the greenhouse, the conservatory or the window garden. Beautiful as are the flowers, the attractiveness of these plants is quite as much due to the erect, stately form of some kinds, the graceful flexibility of others, and the clean, handsome foliage of all. The foliage, in form, bears a resemblance to the Maple, and this has given to the plant the common name of Flowering Maple. It is just as easy to say Abutilon as Flowering Maple, and since it is not a Maple it is best not to mix up names so promiscuously; far better to say Abutilon in all cases.

Our colored plate shows a variegated-leaved sort called *Thomsonii*, with orange flower; the white flower represents *Boule de Neige*, and the crimson one, *Santana*, a fine trio of erect kinds. The small-flowered and small-leaved variety is *A. Mesopotamicum variegatum*; this sort has slender, flexible shoots that allow it to be trained into a great variety of shapes over wire or other frames. It is a profuse-blooming variety, and, skilfully employed, is a very effective plant.

The Abutilons are excellent for the garden, and can be either bedded out or the pots plunged in the ground. In the former case they grow large and strong, almost too large to remove to the house if wanted for winter. When plunged, care should be taken to keep the plants from rooting through the bottom of the pot, by either plugging the hole or setting the pot on a smooth stone or piece of brick. The growth of the plant will be more compact, and it will bloom just as freely as if planted out, and when autumn comes it can be removed to the house and a fine show of flowers can be had all winter. A cool rather than a warm room suits them best; if too warm the plants become long-jointed and straggling, besides being troubled with the little red spider—one of the worst enemies to house plants that we have to contend with. The persistent use of water will destroy this insect, but as it makes its home on the under side of the leaves it is apt to get the upper hand before noticed at all. Showering from beneath is absolutely necessary, and this must be frequently repeated before the little pest finally succumbs. In this case, too,

“an ounce of prevention is better than a pound of cure.” Let the sprinkling be done regularly and we will have no red spider to fight.

As a balcony or piazza plant for summer decoration, the Abutilon has few superiors, being continuously in bloom throughout the season. The contrast between its bright flowers and handsome foliage makes it a favorite everywhere, more especially so since the introduction of the newer colors and kinds. It is but a few years since the white *Boule de Neige* came out with a great flourish of trumpets, and it was truly a grand acquisition and has been welcomed everywhere. Since our plate was made we have tested eight or ten new kinds, and all of them have proved good. *John Hopkins*, with its rich, dark, glossy leaves and bright, clear, yellow flowers, occupies a place only partly filled heretofore by the only real yellow of the older kinds, *Pearle d'Or*. The improvement is very marked, both in foliage and flowers. In fact, with the exception of Geraniums, we know of no class of plants that have been so improved by cross fertilization as the Abutilons. When the variety *Darwinii* came out, florists found a wide field opened up to them. This variety, though a slow-grower, bears its flowers in clusters rather than singly, as do the older sorts, and the flowers themselves are more salver-shaped than those shown in the colored plate. As this variety produces seed very freely, it was successfully crossed with *Santana* and other large kinds, and, as a result, we have the following: *Darwinii tessellatum*, with the variegated foliage of *A. Thomsonii* and the free-blooming qualities of *Darwinii*; *Arthur Belsham*, with a large, clear, crimson flower; *Robt. George*, orange, varied with crimson; *Joseph Hill*, orange, with purple markings; *Roseum*, a near approach to pink; *Chas. Sumner*, deep orange, with purple veinings, and several others, varying a little from the above, but all very desirable.

The variegated sorts, when grown in the house, must be placed where they will get plenty of sunlight, otherwise the colors in the young growth will be weak and the leaves lose their beautifully distinct markings. In the garden, in summer, these markings are brought out in full perfection. A bed composed entirely of Abutilons is a very pretty sight. Use the variegated trailing sort for a border, next a line or row of *Darwinii*, then a row of *Boule de Neige*, then a line of *Santana*, and a center row of *John Hopkins*, yellow. As they will bear trimming very well they should be so cut back that each variety will show off to the best advantage, making a regular line from the tall center of the bed down to the outside edge.



CALIFORNIA BIRDS.

MR. VICK:—In several numbers of the *MAGAZINE* your correspondents have given descriptions of California flowers and plants, but no one has, I think, said a word about the curious and beautiful birds of that wonderful country. Having spent but a few months in its mountains and canyons and foot-hills I am not prepared, of course, to “talk like a book” on the subject, but I can tell you something of what I saw and felt and heard.

I have been seldom more amused than in watching the antics of a flock of Magpies which I saw on the plains a few miles from Milton, on my way to the Calaveras large trees. These birds are black and white, nearly as large as pigeons, and as full of fun and play apparently as kittens, and in their motions something like our Blue Jay. I never before, nor have I since seen a specimen of this bird in America.

Of all the graceful, beautiful birds in the world, I know of none that quite equals the California Quail, and I saw them everywhere in my travels—scores of them covered our path as we ascended the mountains, and as I watched



HEAD OF MOUNTAIN QUAIL.

their proud and graceful steps, I thought that hard must be the heart of the man who could, in a spirit of wanton destructiveness, rob these poor birds of life and enjoyment, and the world of so much beauty. There is still a good deal

of cruel barbarism in man. Near my home is a beautiful small lake; occasionally a strange bird, or a pair of them, sometimes a pair of loons, find their way there, and I think they would gladly make a home in its quiet waters, but no sooner are they seen than three or four heartless donkeys—it is with difficulty I keep from using a harsher word—appear with guns,



HEAD OF VALLEY QUAIL.

and the blood of the poor birds is mingled with the crystal waters of the lake, or they are ruthlessly driven to seek a home among more humane and civilized people—perhaps among the Indians of Canada or the West.

I met with two kinds of Quails in California, one is larger than the other, and the larger kind has two head-feathers gracefully pointing down the back. The other is smaller, with a top-knot consisting of eight or ten feathers, but when alive only appears like three or four. The large Quail is called the Mountain, and the small one the Valley Quail, though the fact is, I do not consider either one confined to mountain or valley, for I certainly saw the Valley Quail pretty well up the Sierra Nevada mountains. I send you a drawing showing the heads of each of these birds.

In the vicinity of the Yosemite Valley, and in other places, I observed many trees with numerous holes bored in their bark, perhaps half an inch in diameter, and most of them were filled with acorns. Indeed, all seemed to be made to fit the acorn. About them I noticed a species of Woodpecker, seeming to be very busy and exceedingly watchful. The holes were made by these birds, who, after making, plug them up with acorns. On inquiring, I was informed that the birds do not eat the acorns, as they are insect-eaters, and if they



TREES BORED BY THE CALIFORNIA WOODPECKER.

relished such food it does not seem as if they would store them away in this singular and troublesome manner. It is said that the acorn soon becomes the prey of a worm, or maggot, and as soon as one appears in the acorn the keen eye of the Woodpecker detects it, and it is soon eaten up. So that the acorn is simply a baited trap for worms. This seems very strange, if true, and shows wonderful instinct. I was told in California, by intelligent persons, that this bird is the Carpenter Woodpecker, but I do not find this name in any of the books, and it is described as the California Woodpecker.

As you have given us some useful facts about birds, I thought a little about those of California might be interesting to your readers, and induce others to write of the feathered tribe.
—M. P.

LATE PLANTING OF POTATOES.

Last season I beat all my neighbors in growing Potatoes, raised a larger crop and with a good deal less trouble. I claim no merit, for it was by mere accident, and yet perhaps the facts may be of interest. On account of circumstances which I need not explain, I did not plant my Potatoes, last year, until the middle of June, and expected a very poor crop. As the seed had sprouted badly they came up in July very weak, but rains soon came, and as the soil was rich, they advanced rapidly, and yielded the best crop I have ever grown. I don't know that the late planting offended the bugs, but they were not troubled so bad as Potatoes in other fields, and it is certain I had less time in which to fight them. I am trying the same plan this year, but may not meet with the same success. If I do I will let your readers know, and if not it will show that the result was a mere accident and that there is no merit in the plan.

Speaking of late planting, I wish to say to the readers of the MAGAZINE that if they wish a delicious winter Cabbage, the very best way I have ever found to obtain it is to sow seed of the Winningstadt the latter part of June, or in July, in a cool place; transplant as soon as ready, and before very hard frost, gather the tender heads and store them for winter. Not being quite matured they will keep better than older heads, and will be as tender as Cauliflower and almost as good. In cooking, cut the heads in quarters, and serve them without breaking or "mussing," each quarter or eighth being nicely laid out on the plate, and dress with gravy or drawn butter, and you have a feast fit for a king. Those who grow nothing but the large Cabbages that are sown early and grown until late in the season, know nothing of the real delicacy of a good young Cabbage, and had better enlarge their knowledge and gratify their taste as soon as possible.

Peas you can never get in too early, and it is about the only thing that it is desirable to start before the ground gets warm. The first flower on my Peas I noticed the 28th of May. It was on the Kentish Invicta, but the next day I saw several on Carter's First Crop and Vick's Early. The Blue Peter is as good as ever, dwarf, early, and for so small a Pea, very productive. Its quality is also remarkably good and its color a greenish-blue, something like Kentish Invicta.
—B. H.

WILD FLOWERS OF ILLINOIS.

MR. VICK:—I read in one of your numbers a very interesting letter from a lady born in Persia, about wild flowers, and if you will grant me space, I will tell you of the principal flowers and Ferns I saw this past summer in several journeys from the southern part of Illinois to the north. Early last March I was down in that part of Illinois called Egypt, and one morning I dropped off a freight train about four o'clock. I had passed the place some time before and was determined to spend a day there. I had seen the rocks near Makanda clothed with Ferns, just as green as if it was summer, and when I see Ferns I have to have a good look at them—something better than an express train allows—so I rode all night to have a look at my pets. When daylight came that morning I met my old friend *Polypodium vulgare*, or rather I should say she was there with all her family, clothing the "cold grey stones," and that little *rhizophyllus*, (*Camptosorus*) or Walking-leaf Fern. This and *Asplenium Trichomanes* seemed to be having a tussel to see which could cover the most space. Where no soil could lodge under the rocks, in the clefts of the rocks and on the ledges there was a general meeting of the Ferns, and the *Aspidium Goldianum* was in the chair. The audience was composed of a great number of the *Asplenium ebeneum*, the *Woodsias* were all there in great numbers, and the *Asplenium thelypteroides*. I would give drawings of all these, but I fear Mr. VICK may have better plates of them.

I found that many flowers were also out to greet the early spring and put in their appearance at Flora's meeting. There were the Misses *Viola rotundifolia*, *V. canina*, *V. blanda*, *V. palmata* and *V. lanceolata*. I climbed some pretty rocks in the neighborhood, and on the top met that lovely gem, *Trientalis Americana*, or Chickweed Wintergreen, and it being my first acquaintance I felt better than I can tell. Ascending the rocks I found on an old tree a *Boletus coriacea*, or Jews-ear Fungus, that would have made a respectable table-top in some rustic cottage. It measured over two lengths of my shoe in diameter. I regretted it was too big for me to carry.

The *Dicentra spectabilis* has had a good deal of "puffing," but let me say, I want nothing better in that family than *D. cucularia*, or Dutchman's Breeches; and the ledges of the rocks at Makanda were not a little beautified with some thousands of them in full flower. The pretty little *Collinsia verna* was not to be left out, and it was peeping out from under Ferns, and over them, and I wondered we had

never had beds of it, as well as Mrs. *C. bicolor*. I afterwards saw beds of it at Carbondale and Centralia.

The *Delphinium tricornis* was there, also, showing its blue face all around; and a host of other equally pretty children of Flora, so I should have to give a catalogue, which is always interesting when one knows the plants in it. I cannot let you go, however, without telling you that it is not bad to ride over one hundred miles, and see the Red-bud, or Judas Tree, *Cercis Canadensis*, and *Cornus florida* with its wonderful sheets of white flowers.

It was my luck, one Saturday afternoon, to ride over one hundred miles where the two last-named small trees and the Peaches were all in their full glory of bloom, and when I arrived at Chicago next morning there was two inches of snow. On a second trip to the above neighborhood, I found that pretty Orchid, *Goodyera pubescens*, with its pretty, netted veins; it ought to be taken more extensively into cultivation.

What a silly pastime this must be. So the man thinks whose ideas are that we should make everything bring in dollars and dimes. But, Mr. MAKEMONEY, let me tell you I am fifty-three years old, and it is over forty years since I began to hunt the English Primrose in spring and to save up my pennies to buy Mrs. MARCET'S "Conversations upon Botany;" a book that with a little revising would make one of the best books that a young person could get. Now, I know that Mr. MAKEMONEY has not had much real enjoyment in the forty odd years I have devoted to taking my periodical hunts o'er prairies, through bogs and woodland dells, to see those beauties that lie hid, as it were, from the common eye, if he is my own age. To take a ramble at any time of year is to pay a visit to friends who never deceive us, who never back-bite us, or give us pain.—THE GARDENER, *Lakeland, Ill.*

DRYING FLOWERS.

There are several methods of drying flowers so as to preserve their color to some degree. The most common way is to spread the flowers in a pan of dry sand and then sift sand upon them, keeping them, when thus covered, in a warm, dry place for some days, and until free from moisture. From Mrs. WILSON, of Center Point, Iowa, we received several varieties that had been dried between thin sheets of wadding, placed between two pieces of glass. Most of the varieties had retained their color almost perfectly. The pressing, of course, had injured the form, but this is more or less unavoidable by any process.

THE TULIPS.

MR. VICK :—I have enjoyed my Tulips wonderfully this season. Until this spring I had only the early kinds, the little *Duc Van Thol* of several colors, and the *Single Early*, and thought I had about all there was to be obtained



DOUBLE TULIP.

in the way of beauty and pleasure from the Tulips. Last autumn I thought I would try the double and late kinds, and am much pleased with the result. The double Tulips are very curious things, and don't look much more like



LATE SHOW TULIP.

Tulips than great Poppies, and yet they make a very good show in the garden, and for cutting for large bouquets, or rather for floral ornaments, they are just excellent—half a dozen,

with a few other flowers and some green, will make an admirable show, as I have good reason to know, having provided decorations for both school-house and church.

However, the most stately, and the grandest of all the Tulips, I find to be the Late Show kinds. They flower after the early ones are about done, and they stand up so tall and strong and stately on their wiry stems, that I can but admire. Then the cup is so open and perfect, so round and so beautifully striped, that I do not wonder that in old times people went crazy about Tulips. I only wish they would last longer, but I suppose that we should not prize them so much.—E. J. W.

The present season has been very unfavorable for Tulips in this section. We have had almost incessant cold, windy weather, relieved occasionally by a day or two of burning hot sunshine. During the whole time it has been very dry, so that the flowers have been frozen and roasted by turns, and parched all the time. Our correspondent, who writes from Ohio, seems to have been much more favored. We present engravings showing the general character of the double and late Tulips. The former now, May 30th, in full flower, have endured the unfavorable weather better than any other kind.

CLIMATE OF NEVADA.

MR. JAMES VICK :—Pansies do very well here; bloom almost all the year. I have been living in this State and valley for eighteen years, and raising some flowers for over ten years, failing with some and successful with other kinds. In the April number, your article on the "Hardiness of Ornamental Plants" gave me the idea of writing to you to say I would tell my experience with flowers and shrubs. So far as the winter cold, I believe last winter, 1878-9, was the coldest we have had since the settlement of the State; in January no snow on the ground, the thermometer was 15° above zero on the coldest night, and in February, with snow on the ground, the same one night; that is the lowest, I believe, on record. But our springs are very uncertain, and very sudden changes occur from heat to extreme cold. The beginning of April was fine and warm, and about the 20th we had snow and wind, and then a north wind and frost; the leaves, blooms and formed fruit were frozen stiff, and the young buds of Roses and Lilacs were nipped. The young buds of *Hydrangea paniculata grandiflora* were not injured in the least, nor were Perennial Phlox, Hollyhock, Wiegela, Deutzias, and Spiræas. Virginia Creeper I cover, also Bignonias, as the young shoots are invariably killed, and they then come from the root.

You will see by this our trouble is with plants and shrubs, or trees that start buds or bloom too early, unless very hardy. I have not tried the *Althæa* long enough, but I think shrubs starting

late as it does, will be a success, unless they do not mature the wood sufficiently in the autumn. The *Wisteria* will do well here by following your directions to cover the first winter. I have one about sixteen feet or more high, and the buds are started to within a foot of the top—good strong buds.

If I can give any information useful to flower-growers I will be happy to do it, as I have had so much useful and practical knowledge from your books since 1871. We have some flowers here, natives and fragrant, but insignificant flowers, if they have not many in California. Perhaps I should mention Cherries, Pears and Apples were uninjured with the April frost, but Plums killed and Peaches about half. I had broken my thermometer or I would have known how cold it was. One year the thermometer was down to 25° above zero and Apples, Pears and Currants escaped—and we have never been a year without Baldwin Apples since the trees began to bear.—C. L., *Franktown, Nevada*.

TABULATED VALUES OF ROSES.

JAMES VICK:—As requested in your favor of May 2d, I add further explanations of the table of the best thirty hardy Roses for general cultivation. The five qualities considered—color, form, fragrance, etc.—are placed in the order of their importance. Color being of more importance than form, should, of course, have more points assigned to it than form. So, also, form should have more points than fragrance, and so on. These qualities are arbitrarily chosen and placed, and form a scale of points as tabulated, which has never before been attempted. Further consideration and experience will probably lead to some slight modifications, but I think the principles carried out in this scale of points will be found correct and generally satisfactory. The weakest point in the table is the relative position of color and form. They are, I think, more nearly alike in worth than any other two of the qualities named, and should, perhaps, be assigned the same number of points, or less difference made between them than between the other respective qualities. This is the only change I would make at the present, if indeed I would make this. With no authority as a precedent, and only my own opinions and experience to guide me, it would be strange did I not find some future changes necessary; but I have submitted the table with the hope that it would be found worthy of study by all who love Roses, and be an aid (at least to beginners) to culturists in making selections of varieties.—H. B. ELLWANGER, *Rochester, N. Y.*

FLOWERS OF THE PACIFIC.

MR. JAMES VICK:—Your publications are regularly received. The *Dianthus* has done remarkably well. They have self sown until now we have scarcely two alike, but unfortunately the whites, my favorites, have sported until there is not one left without some spot on it. I have some fifty varieties of colored ones. We have *Tuberoses* seven feet high, and one that does not have as many as fifty flowers on it is a poor stem. We have often had fifteen or twenty stems at a time, and have not been without two or more for over a year. Their culture has been very simple. As soon as the stalk was cut the bulbs were dug and laid on a board under the house, in a cool, dry place, and left three months, or until they begin to start to grow; then all the tiny bulbs are separated and planted in rich earth, and in six months or so each bulb gives a stalk of flowers.

Our *Pansies* are the admiration of all our visitors, as so few persons here cultivate annuals, though there are most charming gardens of *Roses*, *Lilies* and shrubs. Our *Pansies* are planted in partial shade, and get a great deal of water; some are very large and handsome, but they run out, and we have to renew them with Eastern seed every year.—Miss. L. P.—*Mango Grove, Krneoka, Hawaiian Islands*.

WINDOW BOXES.

Last fall I accepted your suggestions as to floral decorations for the windows of our rooms, and with the aid of our good friend STAGER, the carpenter, some lumber, nails, screws, brackets, twine, hooks, etc., we have had a perfect feast of beauty all winter. The heat of the room and sun together gave us a result that has been the admiration of all our friends, who came to see house decorations a-la-Vick. We have used *Ivies*, *Cobæas*, *Geraniums*, *Fuchsias*, *Mosses*, *Lobelias*, *Carnations*, *Begonias*, *Verbenas*, etc. The climbing plants went all around the windows on strings neatly arranged. In cleaning house this spring the boxes were removed and nakedness met us where beauty before had greeted us on entering. In future the windows shall bloom in remembrance of this and other good suggestions from VICK'S MAGAZINE, a household necessity in every family.—A LADY READER.

LILIES.—It is stated in some of the foreign journals that *Auratum* and other *Lilies* that do not seem to bear well the full blaze of the sun, nor very much shade, succeed admirably if planted among low-growing shrubs that will afford shade to the roots while the top ascends to enjoy the full sunshine.

HARDY SHRUBS.

MR. VICK:—The last winter was a pretty severe one all over the country, and yet I find that many things that we once considered rather tender passed through without the least injury. The truth is, I suppose, that these plants are becoming acclimated. For some years after I planted the Wistaria it was injured every winter, more or less, even with straw covering. Now it bears our hardest winters without losing an inch of even the tenderest wood, and entirely without covering. The Laburnum I was anxious to have because I had seen it so fine in



DAPHNE MEZEREUM.

Europe, but the injury received each winter kept my plants small, scrubby and ill-looking. Now I have fine young trees, and as good as I desire. To-day, June 2, I have them really splendid, covered with their golden chains.

In this connection allow me to speak of a little favorite, *Daphne Mezereum*, a small bush which gives its delicious pink flowers early in the spring, and these are followed by the pink berries clustered around the stems, and bright green leaves. I name this because I like it so well, and yet so seldom see it in cultivation.—OBSERVER, *Genesee county, N. Y.*

We have never before seen the Wistarias as fine as this season, and they are just now covered with their beautiful flowers.

The *Daphne Mezereum* is well recommended by our correspondent, and we give a branch showing the way in which the berries cluster around the stem after the flowers are gone, the flowers, like the fruit, being borne on the old wood. The *Daphne Cneorum* is also an elegant plant, of which we shall say more in some future number.

BURNET AS AN EDGING PLANT.

Burnet is a beautiful border plant, and is evergreen, the leaves being, in winter, a sort of bronze-green, and in summer a good healthy green. It does not spread; requires trimming once or twice in a season after the first year. It should be renewed once in three or four years. Sow the seed in the open border, where you wish it to grow, in May, when you sow annuals.

The flowers amount to but little, only as they produce the seed. The green foliage is nice to use in making up bouquets. I think it might easily be transplanted. It is very little trouble to manage it, and of course it requires water when very dry. As a border for fancy-shaped beds, I think it very desirable, and it is universally admired. It is beautiful the first year. Mine is in bud now, the whole plant being a little more than a foot high. It is good for those who, like myself, have little time to cultivate flowers, as it is easily raised.—MRS. H. A., *Adrian, Mich.*

FUCHSIA BEDS.

MR. VICK:—I am indebted to you for a good many useful suggestions, but for none more than the treatment of Fuchsias in the summer. In old times, after the bloom of early summer was gone I considered my Fuchsia plants useless, and stored the plants and pots away among the refuse. Now I consider my Fuchsia plants the choicest I have for summer decoration. All that is required to keep up a perpetual show of flowers until autumn is partial shade, like the shelter of a building, or any shady corner, and abundance of water. I give my plants a good showering every evening, and have flowers to cut every day, besides the handsomest bed in the garden, as I think.—M., *Onondaga Co., N. Y.*

THE JAPAN QUINCE.

Among the many useful plants you have recommended to your readers I do not recollect seeing anything about the Japan Quince. I consider it one of the very best flowering shrubs we have, both for beauty and usefulness. It forms a pretty bush for a small lawn, and holds an important place in the shrubbery. All through May it is almost covered with its large, scarlet flowers, and the form of the plant and the color of the leaves are all that can be desired. The plant is also remarkably healthy, never having a dead, or even sickly branch or leaf. For a handsome hedge, either for protection or ornament, I know of nothing as good, do you?—BERTHA.

We do not, and can endorse all our correspondent says of this plant.



HYACINTH CULTURE IN HOLLAND.

Having spent some time in Holland among the growers of bulbs, we have more than once given information on this subject. As, however, we have constantly new readers, the following facts from *Cass's Botanical Index* will be interesting to many. The engravings are taken from the drawings we made when in Haarlem:

"Years ago, when Hyacinths were still so high in price that they were only to be had by the rich, there were just a few gardens around Haarlem where these bulbs were grown, and the stock was small at that time. Since the railways and steamers go direct to nearly every part of the world, the nurserymen of Haarlem are producing more stock, and have arranged new nurseries for this valuable plant, so that at present in spring the country around Haarlem for many miles to the north and south is in reality a flower garden. The nurseries generally lie along the dunes (low sand hills), and the soil is almost pure sand, varying in color from white and yellow to brown and grayish black, which great difference enables the nurseryman to give the Hyacinth every year a different and at the same time a fresh soil. During the winter, those places where the Hyacinths are to be planted next autumn are trenched three feet, and sometimes even five feet deep, in order to bring the soil in which the Hyacinths have grown one year down deep in the ground, and also to get a fresh soil on the surface. In March and April the soil is enriched with cow manure, after which green crops of Potatoes are planted, and it is dug again in autumn about fifteen inches deep before it is ready for the Hyacinth.

"In the end of August growers begin planting the bulbs, in oblong rectangular beds, about three and one-half feet in width—the depth varying according to the different ages of the Hyacinths, and to the nature of the ground, also to the height the soil lies above the level of the water. By the end of November all the Hyacinths are covered with reed mulching about one inch thick, which is taken away in Febru-

ary or March when the frost is over; and if the leaves which are now just coming out of the ground look yellow, they are lightly covered again till they are quite green, when the reed is taken away.

"About the 15th of April generally the Hyacinths are in bloom. It is at that time the environs of Haarlem present that splendid sight for which they are renowned. Flowers everywhere, and when there is no wind the air is filled with their rich perfume. When they begin to wither, they are all carefully cut off in order to prevent the bulb from becoming too much exhausted, and are strewed over the land where Potatoes are planted to prevent the sand from being blown away by the winds. This bed of flowers is also of great benefit to the



HYACINTH BULB "CROSSED."

land, as there is some manure in it." Directly after the flowers are cut off, the bulbs begin to grow; the leaves erect themselves and get taller. The weather during May and June decides whether there will be a good crop or not. For the last two years the Hyacinths have been badly injured during these months by honey-dews and storms, so that it will require at least one good season to bring the stock up right again.

"About the last of June the growers begin to take the bulbs out of the ground, and this is the time to multiply them, which is done in two

ways. Coming fresh out of the ground, the bottoms of the oldest and largest bulbs are cut into six or eight equal parts, about the thickness of the height of the bulb; this mode of cultivating is called 'crossing.' Next year the old bulb is gone (decayed), and on the separated parts of the bottom of the bulb, between the shells, about twenty young ones are grown. The small bulbs got in this way require four years before they are large enough to be sold or to be crossed again.

"The other way of cultivating is called, in Dutch, 'hollowing,' in English, 'scooping out,' which means, to make a hole. Probably every one knows that a Hyacinth consists of several shells arranged like an Onion, coming together



HYACINTH BULB "HOLLOWED."

at the bottom, and in the center of which is the flower. By the end of July, when the weather is fine and dry, this bottom is carefully cut out, so that nothing is left but the shells. The bulbs being severally wounded, are put in the draft or sunshine to dry. After two or three weeks, when the wound is quite dry and hard, a great many small white nobs may be seen near the dry part of the shells; and being planted in the autumn of next year, all these knobs will become very small young Hyacinths, that do not bloom for two or three years, and take six, and sometimes even eight, years to grow to the ordinary size. By this way of cultivating, one bulb produces from sixty to one hundred and fifty young ones.

"Next year the young ones are separated, when crossed, or picked off the old dry shells in the other way of cultivating; planted quite free in autumn, and lifted again in June, and so on for several years, which depends on the sort growing fast or slow, until the bulb is old enough for market, or to be used for cultivation. By applying these methods of cultivation every

year, different stocks are obtained, which are treated according to their age. The Hyacinths, after being all lifted, are buried again in the earth in order to let the roots die off, and to enable the bulb to close itself (ripen). After a fortnight they are taken out again, and dried for an hour or so in sunshine; then sifted to get the sand away, and brought into the bulb house, where they are laid out on wooden tables in a draught—for the windows of a bulb house are only shut when the weather is damp.

"By the end of July or beginning of August, the bulbs are sent out. New sorts of Hyacinths are got from seed, which takes a very long time, as the grain of seed wants eight, sometimes even ten, years to grow, until the bulb is large enough to produce a good flower; and then the grower possesses only a single bulb. So it may be imagined what a long time it requires, as well as the great cost it incurs, to secure a stock of such novelties."

THE ASPHODELS, OR DAFFODILS.

FRANK MILES writes to the *Garden* that "Up the mountains the Greeks buried their dead, and there they lay o'ershadowed by a canopy of Asphodels, whose flowers twinkled on their branches like evening stars—a fit type, the Asphodel, of the Resurrection, with its dead blooms, and blossoms, and buds, as of days that were, and days that are, and days that are to come. And so these dreamers came to think that when a new life was come to the sleepers they would wake in Elysian fields, in meadows one mass of ever-blooming Asphodels. And whoever is responsible for our English name of Daffodil thought that these saffron flowers were the Asphodels of the Greeks, and so called them *Fleur d'Asphodel*, from which we get the corrupted name Daffodil. Let us keep to this beautiful derivation beyond all others, and learn humbly from it that our own churchyards might be as full of Daffodils as the Elysian fields were of Asphodels."

DROOPING OF CUT FLOWERS.—The *Gardeners' Chronicle* says that if flowers cut for bouquets or other work, are stood in water for several hours after being cut and before they are made, they will endure much longer without flagging than if immediately arranged. The more water they can absorb after being severed from the plant the better they will stand.

COLORING WASH FOR WALLS.—Three or four handfuls of Portland cement put in a pailful of whitewash will make a nice stone-colored cement for walls or out-buildings, that will look well and not wash or rub off.



PLEASURES OF THE GARDEN.

Gardening is a pleasure enjoyed by nearly everybody, and is the especial recreation of men of genius. The great men of the world, and particularly the great and good, have, with scarcely an exception, sought both rest and inspiration in the garden. The *London Globe* says: "Of all the various hobbies in which men of mark have interested themselves, perhaps no one has been so common as gardening. Even monarchs, from Diocletian to the present Sultan of Turkey or the King of Bavaria, seem to have found greater pleasure in cultivating fruits and flowers than in the exercise of regal power. Every school boy has heard of those famous cabbages, the sight of which Diocletian firmly believed would reconcile his old colleagues to his loss of empire. And future readers of European history will probably be impressed with the fact that while the Russians were thundering almost at the very gates of Constantinople, the father of the faithful was engaged in the formation of a new orangery. Pope used to say that he was prouder of his garden than of his poems, and a similar pride is said to possess the most popular of transatlantic preachers and lecturers, who apparently spends no inconsiderable portion of the income derived from his oratorical efforts in making good the losses entailed by his amateur farming and gardening. It was to the hobby of a Scotch Duke, principally, that we owe the richness of coloring so peculiar to our landscape in autumn, he having taken very much the same interest in the introduction and acclimatization of foreign trees and shrubs that Dr. COMPTON, a former Bishop of London, displayed in the importation of the choicest exotic plants and flowers. The 'father of exotic planting in England' is the title which the Bishop's hobby was the means of conferring on him, and the vast collection at Kew and the splendid shows of the Horticultural Society may be regarded as the latest results of this venerable churchman's pastime. When monarchs have taken to gardening it has sometimes been carried on

in a truly regal fashion. Cyrus is said to have planted all Asia Minor, and he had a splendid estate more particularly under his own supervision. 'Never, when my health permits,' wrote the Prince, 'do I dine until I have labored two hours in my garden.' Not a few men who have acquired a taste for gardening have become so enamored of their hobby that they have caused themselves to be buried in the spots on which they have spent so many pleasant hours. Sir William Temple, though anticipating that his body would find a resting place in Westminster Abbey, ordered his heart to be enclosed in a silver casket and buried in his garden."

BOXWOOD FOR THE HAIR.

A gentleman in Westport, Ont., wrote us to send him some dwarf Box plants, without roots and dried. As this seemed a curious order, we wrote for further information, and received the information that only the dried branches were required, and that a decoction of the leaves and stems would prevent the falling out of the hair, and for this purpose they were to be used. As the information will doubtless be of value to many of our readers who are on the down-hill of life, we thought it well to lay it before them.

MR. JAMES VICK:—I may state that I have tested and proved for several years the power of Box in preventing baldness. Were I to cease its use for several weeks, my hair would commence to fall out in large quantities. When I would resume the use of the Boxwood the falling out would very soon cease. I, therefore, continue its daily use from one year to another, and my hair is still preserved, though thin. Did I not do so, I am confident that I should now be bald, though not forty years old, baldness being hereditary with me. Besides preventing baldness, it serves to keep the hair in whatever position desired, as well as, if not better than hair oil. From the fact that my hair does not grow thicker and heavier again, I infer that the Boxwood simply prevents baldness but does not cause the hair to grow again on a bald head.

As to its preparation, I simply put a handful or two of the Box, stalks and leaves together, into any sort of vessel that is suitable, with enough of water to cover them, then let them slowly infuse, but not boil. The first water may not take all the strength out of the stalks, and, therefore, a second water may be supplied with advantage. In this way I get prepared about one quart of the liquor or extract of the Box at a time. It must be

strained carefully and allowed to settle before being bottled. I keep a pint bottle of the extract in my dressing room and the balance I put down cellar to keep cool until needed, as it will very soon spoil if not kept cool. What I have in my room I keep, bottled, of course, in the pitcher of water as a means of preservation. As the perfume of the extract is not pleasant, cologne water must be added to scent it. Then out of the bottle I pour, with one hand, the liquid on my head, and rub it in with the other hand, as barbers do; simply enough to wet the hair sufficiently, once or twice per day, at pleasure. Take care of the linen, as it stains seriously. Attend to these directions and there need be no baldness, if taken in time.—J. J. R.

FOUNTAINS AND WATER PLANTS.

MR. JAMES VICK:—As your MAGAZINE is for the purpose of affording aid in the ornamenting of grounds, would it not be practicable to give some aid or hints regarding those most beautiful of ornaments on a lawn, viz., fountains. I can buy, of course, handsome iron structures, but what I want is not for sale—something beautiful and unique, more water and less iron. I want rocks, shells, plants and water. As our place lies out of the city and the lawn is about an acre in extent, we have plenty of space, and the basin can be large enough for fish. If you can help us any in the way of information or illustrations we shall be very glad.—MRS. DR. B., *New Albany, Ind.*

The above and several other inquiries regarding plants suitable for aquariums and ponds we have endeavored to answer in an article commencing on page 195. The most beautiful water effects can be produced by the skilful arrangement of pipes just raised above the water of the pond, and concealed, if necessary by a few rocks. Elaborate iron fountains are not necessary, and in most places not desirable. One of the prettiest little fountains we ever saw consisted simply of a circular basin, perhaps ten feet in diameter; in the center of the basin was a pipe from which came a jet of water, ascending ten of twelve feet and falling in spray, while at the edges of the basin, three or four feet apart, were smaller jets, ascending five or six feet. Such a fountain, of course, requires considerable water, and unless we could command plenty we would have no fountain. It is not necessary to keep a fountain in constant operation. A few hours in the day is sufficient. It is only occasionally that the large fountains, like those at the Crystal Palace in London, are to be seen in full play.

DOUBLE-FLOWERED TRANSCENDENT CRAB.

MR. VICK:—Enclosed find a sprig off my Transcendental Crab Apple tree, and one of the three double blooms of 1879. It may not reach you in very good condition. One of the three is now almost like a *Camellia japonica*, lovely white and sweet-scented.—G. C. B., *Loveland, O.*

Accompanying this note was a blossom having nineteen well-formed petals. We are not told if the tree had any other blooms on than the three mentioned, nor whether these grew on one branch. The tendency in this tree to pro-

duce double flowers can be fostered until it has become permanent and a valuable double-flowered variety produced. If nothing more is done with it it would be well to bud a few stocks from the shoot that bore the flower "almost like a *Camellia Japonica*," and ascertain if that will perpetuate itself.

Since writing the above we have received the following note, together with another flower having twenty-five petals. There are now in the trade a number of double-flowered Crabs, and it is questionable if our friends get anything better. The test can only be made by bringing them together.

MR. VICK:—Enclosed I send you a floral curiosity—a double Apple blossom, Siberian Crab. When first gathered it was as beautiful as a white Rose. I wish I could have made a sketch of it for your MAGAZINE.—MRS. L. A. O., *Ypsilanti, Mich.*

OLEANDER, RHUBARB, ETC.

MR. VICK:—Is there any truth in the newspaper statements about the Oleander juice being a deadly poison, and Rhubarb leaves being poisonous? If the leaves of the Rhubarb are poison why are not the stalks?

I send a sprig of a woody vine common here. Is it a poisonous plant, or is it the Virginia Creeper? The flowers are followed by purplish berries, the foliage changing to red. I also send a piece of a wild, woody shrub called Honeysuckle.—V. E. C., *Barre, Mass.*

Death has resulted from eating the meat in which skewers made of Oleander wood have been used. The powdered bark is used as a rat-poison, and an infusion of the leaves is a powerful insecticide.

Rhubarb leaves are not poison; the properties of the leaf-stalks and roots are too well known to need description, and the qualities of the leaf-stalks pertain to the leaves.

The specimens of plants received are the Virginia Creeper and the Scarlet Trumpet-Honeysuckle, *Lonicera sempervirens*. The Virginia Creeper has five leaflets of a dark green color; the Poison Ivy has but three leaflets, which are thin and light green, without gloss.

FUCHSIAS.

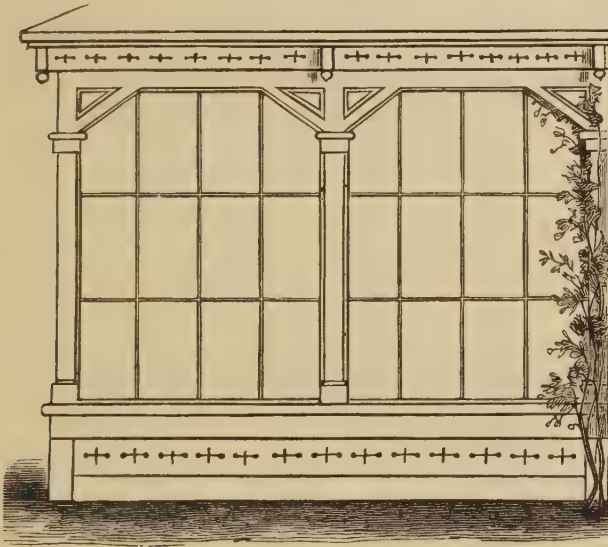
I have Fuchsias that have flowered beautifully all the latter part of winter and this spring, but I do not care for them in the house much longer. What shall I do with them? Are they of any use in the garden, or will they not bear garden treatment. Please advise me, for my plants are too fine to be destroyed.—MARINDA M.

Make a nice bed for the Fuchsias in some half-shaded place in the garden, like the north side of the house, and in this set the Fuchsias. Give them a good watering every evening and you will have no bed in the garden more beautiful. The plants will be healthy and the flowers abundant until destroyed by frost. The plants may be removed to the house before cold weather, but are not as desirable as young plants.

A VERANDAH CONSERVATORY.

Cultured taste in horticulture is a distinctive mark of real refinement in modern life. With the increase of wealth comes a demand for glass structures of some kind, in which the operations of gardening, in its lighter and more ornamental branches, can be prosecuted at all seasons of the year—regardless of winter's blasts and storms and summer's fiercer rays and droughts.

Except in the Southern States in this country, our winters are practically from six to nine months in duration, and, for one who really delights in a garden, to be restricted to the few fleeting months of summer when work can be performed in the open air, is an aggravation of spirit and an added gloom to the dull season. We seek to continue the attractions and enjoyments of the garden in various ways; first, by planting about our grounds the Pines and Spruces and Firs and other evergreen trees and



OUTSIDE OF VERANDAH.

shrubs that will enliven the landscape by relieving the unvarying whiteness of the snow or the brown surface of the bare earth; then we bring our plants in pots to the windows, and there watch and train them, encouraged by the sunlight they thus receive for a few hours or more each day. A fernery or Wardian case is another expression of the same desire. But these are not enough if we can have more; the limit is too narrow and the conditions for successful cultivation too unfavorable.

The artificial conditions that cultivated plants demand are those that most closely resemble the natural ones, and these we can give to the finer exotic plants that we most highly prize, only by providing them either with a building or an apartment for their exclusive use.

Our illustrations show a conservatory in this city, made by enclosing a verandah by fitting sash in between the posts. This verandah is in the front of the house; a window from the parlor looks into it at one end, and another from a sitting-room opens into the middle of it. Both these windows are shown in the inside view. The sash is double-glazed, with an air-space of nearly half an inch between the glass. The triangular spaces between the plate, the posts and the braces are utilized as ventilators, by having little sashes to fill them, hung on hinges so as to open inwards. The size of the space, enclosed in the manner described, is six by fifteen feet on the floor and twelve feet and one-half high. The glass is in large panes, twenty by thirty-five inches. The room is heated by three rows of hot-water pipes, two inches in diameter, running along the ends and front within two or three inches of the floor. Over the pipes is a shelf that conceals them from view. This shelf, running along the bottom of the sash and on which plants are standing, is shown in the engraving. The water in the pipes is heated at the furnace in the cellar that supplies the heat of the house. The pipe at the furnace is bent into a semi-circle and lies inside the fire-pot a few inches over the bed of coals. Of course there is no extra care in attention to heating, as the furnace fire must of necessity be kept going steadily, during the whole season that heat would be required for plants. Water is supplied to the pipes through an upright half-inch pipe at one corner of the conservatory. In June the sashes are removed from the verandah and the plants are properly disposed of. A few of them remain on the floor, some are turned out into the borders and others stand in their pots in some half-shady

place in the garden. In this way, the attention they require in summer is trifling. With the approach of cool weather in the fall, the sashes are replaced, everything made ready and the plants brought again into their winter home. English Ivy is trained up one corner and around the border, and appears to intend to take possession of the ceiling, as it grows very thriftily and evidently has a place to its liking. The view of the interior of the conservatory was sketched in the early part of May, and represents it very well as it then appeared. Only about half of it is shown—the end next the parlor window. The general appearance of thriftiness of the plants fully confirmed the statements of praise made by the lady of the house, Mrs. H. P. LANGWORTHY, who takes

charge of it and considers it one of her greatest pleasures. Probably the most noticeable feature of this collection was the large number of Begonias of different kinds that were cultivated. Without intending to give any preponderance in number or aiming especially to make pets of



INSIDE OF CONSERVATORY.

these plants, they had been almost unconsciously procured from time to time and propagated, on account of their profuse blooming qualities, until they formed a large proportion of the whole collection. To give some idea what such a place may contain, we give a list of the principal plants at the time the sketch was taken. Begonias of numerous kinds, many varieties of Pelargoniums, Dracænas, Cissus discolor, Abutilons, Oleanders, Cyperus, Fuchsias, Passion Vines, Variegated Euonymus, Ageratum, Tropæolums, Peperomia, several new sorts of Ferns, a fine plant of Plumbago Capensis, Cannas, Callas, Variegated Agave, a number of fine Cactus plants. Besides these there were many young plants that had been raised from seeds, and cuttings ready to be planted out.

During all the dull winter season this little room had been gay with green foliage, bright flowers and the music of a Canary bird; the attention required to keep it in order was a calm, pure pleasure, healthful to mind and body. To both the common sitting-room and to the parlor this spot gives a cheerful aspect, for here the eye rests with satisfaction instead of falling upon the barrenness and desolation of our northern winter scenery. How can we

sufficiently estimate the value of such a place as a means in the training of children, who have here a scope, to some extent, to investigate and watch some of the most interesting of nature's operations! How many opportunities, too, are offered with plants and flowers to bestow kind attentions upon others, enabling expression thus to be given to the best affections of the soul which otherwise might remain comparatively undeveloped! We think we can say without contradiction that the person who habitually cultivates plants and flowers is by this practice constantly, even if insensibly, refining his thoughts and sensibilities.

Many dwellings are so constructed that at no great expense they might be provided with similar conservatories, and in a short time the skill would be acquired by those interested that would produce the most satisfactory results, although without previous experience. One of the faults often committed by beginners with a conservatory is to undertake to raise too many kinds of plants, or, rather, those that re-



GENANIUM IN SEA-SHELL.



MR. WAKELEE'S CONSERVATORY.

quire widely different treatment, which it is impossible to give in the narrow limits their apartment restricts them to. The exposure of the place and the degree of heat that may be

maintained will determine to some extent the kinds of plants that can be most profitably employed. There is an opportunity for the exercise of a correct judgment and the display of fine skill in the adaptation of different plants to those places most suitable for them. The plants requiring most heat can be placed in the upper part of the room; those that do best at a low temperature can occupy the floor and lower shelves; those that luxuriate in the full sunshine demand the shelves nearest the glass, while others are far better suited in shady retirement. The character of the soil, the size of the pot, the amount of watering are all conditions that must be carefully suited to each plant, and the plants themselves, by the vigor of their growth and the abundance of their blooms, will attest the skill bestowed upon them in supplying their various wants. Not one of the least advantages of such a conservatory as we have described is the facility it affords to start young plants from seeds, cuttings and otherwise for future planting in the beds and borders of the garden, and thus enabling one to carry on work in inclement weather which would be apt to be neglected if no such favorable opportunity were enjoyed.

Thus it will be seen that besides the luxury of plants and flowers in winter we can have a larger and finer display in the garden in summer. One can, too, combine profit with pleasure, like JOHN GILPIN; "For though he was on pleasure bent he had a frugal mind."

Many plants for the kitchen garden can be

started in boxes in the conservatory without occupying much room, and can be brought along until the season is favorable for transplanting them to the cold-frame.

In a previous number a window conservatory, smaller than the one we are now considering, was described, which mainly received its heat directly by the warm air of the adjoining room, and in severe weather and nights had the additional heat of a coal-oil stove. By the proper distribution of the heat by means of a tank of water or pipes a coal-oil stove could be relied on for doing much more work; even such a room as the one now illustrated could, undoubtedly, be heated in this manner, although its unusual height would make it more difficult than a place of ordinary dimensions in this respect.

Although it is now clearly shown how well a porch or verandah may be converted into a plant-room, we would not advise one in building a house to keep this design in view for the same purpose, but, rather, in constructing a conservatory out and out, to have it show a unity of design with the building, and to be made with a glass roof as well as sides.

We also show a window conservatory in the residence of Mr. S. P. WAKELEE, of this city, built with the house, and having the room on the second floor extend over it; this will be understood by a glance at the outside view. The size is six by thirteen feet; the lights of glass are twelve and a half by twenty inches, and the sash is double-glazed. The manner of heating is similar to that of the one we have described, excepting that instead of having pipes around the base of the room, a wooden



FURNACE.



MR. WAKELEE'S CONSERVATORY—INSIDE VIEW.

tank, one foot high and nine inches wide in the clear, runs along the base at the front; this tank, which is lined with zinc, has a division in it through the center except at one end. At the end of the tank nearest the furnace it receives a pipe on one side bringing the hot water from the furnace, and on the other side a pipe passes out conveying the cooler water to the fire to be reheated. The tank is covered with slate through which the heat passes into the air. The beauty of this conservatory is the glass partition and doors which make it really a part of the sitting-room, off which it is built. Our engraving of the interior is a view from the dining-room, the sliding doors of which are thrown back, allowing us to look through the sitting-room upon the plants. Mr. W. is an enthusiastic plant cultivator, and, as in the former case, so here we found the lady of the house taking a lively interest in her world of plants; as she appreciatively expressed it, "it is like having the care of a baby, you see something new in it every day."

This little conservatory, besides being always gay and pretty, supplies an abundance of cut flowers for vases for the mantels and tables, and some to spare for gifts to friends.

PETUNIAS.

I write for the purpose of asking you a few questions in regard to raising the double Petunia. Last spring I bought seeds and sowed them in the open ground. I got no plants from them. I also sowed the new fringed with no better success. I thought too early planting was the cause of failure. This spring I sowed a package of each—the double and fringed—and sowed them in a hot bed May 14th, so as to escape cold rains and bad weather, and gave them water enough to keep the soil moist, and as yet I see no signs of their coming up. I planted some seeds I had of the most common sorts, at the same time, and they are all up and doing nicely. Those I planted on the north side of the house where they get but very little sun, and I planted my choicest mixed where they get the morning and noon sun, and also my double Portulaca. Is that a good place for them?—M. C. S., *Bristol Station, Ill.*

The choicest kinds of flowers are grown usually at the expense of the constitution. As a general rule, though there are many exceptions, the more highly bred the flower the less vitality in the seeds. This holds true in animal as well as in vegetable life. We have kinds now bearing superb flowers, and with constitutions so delicate that they are and probably will remain worthless for practical purposes. We have had some new varieties of Phlox in this condition for several years. The Amaranth Sunrise we delayed sending out for three years, for the same reason, and even now fear that we were a little hasty. The more sun the better for Portulaca. The Petunia will endure the full sun, but succeeds very well in partial shade.

DOG-TOOTH VIOLET.

MR. VICK:—Enclosed please find an imperfect drawing of an early bulb plant which I found in the woods of southern Michigan. It blooms in April, in shady, moist places. The bulb is from four to six inches deep. Its two leaves are of a glossy, bright green, tiger-spotted, with dark brown red. Its beautiful flower, one to each plant, balanced on a slender stem of about five inches in length, is lily-like, with three sepals and three petals. I observed two colors, yellow and white; but the different colors seem to affect widely different places. Would you kindly inform me what it is?—C. P. M., *Monroe, Mich.*

Our friend has found the Dog-tooth Violet, *Erythronium*. This is a very common wild plant and one of the most beautiful of our early



spring flowers. Its leaves are among the very first to spring up as soon as the snow is gone. The Yellow Dog-tooth Violet, *E. Americanum*, is the most widely distributed species. The white kind, *E. albidum*, is rare in the eastern part of the country, but we should judge from our correspondent is plenty in Michigan, as we know it to be farther west. The leaves of the latter kind are less spotted than the yellow one. The Dog-tooth Violet of Europe, *E. Dens-canis*, has a leaf very similar to our yellow one; the flower of it is a rose-purple and sometimes almost white. The Erythroniums are excellent subjects for the wild-garden.

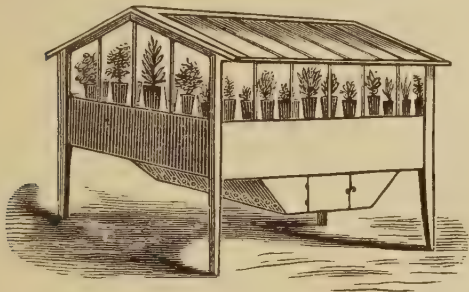
Lilies and Pæonies.—Will you please inform me through your ever welcome MAGAZINE if I may expect my Lilies and Pæonies that I planted this spring to bloom next season? Lady friends have told me that they would not bloom for three years. The Lilies, Roses and Pæonies I started this spring are growing finely. The La Reine Rose has five beautiful buds ready to open. Will you also inform me what time in the autumn is best for planting hardy bulbs and roots, as I wish to send this fall for a supply for my garden.—E. Mc., *St. Paul, Mo.*

The Lilies will certainly flower next season, and perhaps most of them the present summer. The Pæonies we hope will bloom next summer, though sometimes they will not do so.

A PROPAGATING FRAME.

MR. JAMES VICK:—In reply to "S. E. S.," Berea, O., in the May number, about striking Rose cuttings, you mention the use of a frame similar to a Wardian case, provided with a shallow tank of water heated by a lamp, &c. Now, I am not one of the fortunate whose means will allow them to have a greenhouse, so for the want of bottom heat have had some difficulty in making cuttings root, and have had an idea that such a frame could be used to advantage for a long time, but could not tell how it should be constructed, or what the proportion of the tank should be to the frame, and whether there should be any vent for steam or not, but should think there ought.—R. S. M., Jr., Boston, Mass.

A case for the purpose of the one here described was formerly called a Waltonian case, the name being derived from the person, Mr. WALTON, of England, who first attempted its use. As these cases are now made they are quite different from those employed by Mr. WALTON, and the name first in use has been generally dropped and they are known simply by the name, propagating frames. Cases of this kind are in use very much among amateur cultivators in Europe, but have received but little attention in this country.



Our engravings give the general ideas in relation to their construction. They have usually been made with a high back and low front, with one slope to the roof or cover, like that of a lean-to greenhouse, but we have had drawn and engraved what we consider a more convenient and tasty form.

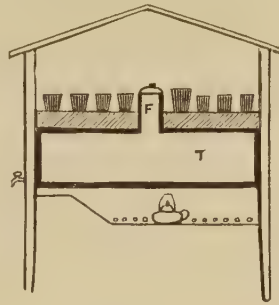
It should be set on stout castors, and then it can be turned about on the floor without difficulty, thus enabling one to expose alternately each side to the window. The size can be as one may desire; twenty-two by forty inches, or twenty-four by forty-two inches are good sizes.

The covers should be hung so as to turn back on each other when desired. Ventilation is given by lifting a sash as much as may be necessary; a lever hung at one end, fitting into a ratchet on the under side of the cover sash, will hold the cover in its place at any desired elevation.

Underneath the frame is a chamber for the lamp, which is placed inside through a small doorway.

The wood-work forming the main part of the

frame should be about ten inches high. The cross-section shows the interior arrangement, with the lamp standing below. An opening at the back part of the lamp-chamber will allow



the passage of smoke, and some holes in the bottom, shown by dots in the engraving, allow a free passage of air to the lamp. The tank, T, should be made of galvanized iron or zinc; its thickness or depth may be from two to two and a half inches, and its length and breadth exactly that of the inside of the frame. A tube two inches in diameter runs up from the center of the tank, which serves as a fountain through which to supply water; the tube can have a loose-fitting cap. An inch of clean sand on the top of the tank will make a good bed on which to set the pots, or if there is three inches of some light material, like spent hops or sphagnum, the pots can be plunged in it nearly to the bottom.

The description we have now given is intended to convey the general and simple ideas in relation to a propagating frame; these ideas admit of various modifications, some of which may add to its efficiency and ease of working. In the use of a propagating frame it is necessary to have a thermometer always standing in the sand or plunging material, in order that the bottom heat may be discovered at a glance. A bottom heat of 70° or 80° is the proper temperature ordinarily.

The proper care of a propagating case will be easily learned, and after one has become familiar with its use, he will find it of the greatest service in the germination of seeds, rooting cuttings and bringing along young, tender plants.

The case should stand at a well-lighted window and its position be frequently reversed, so that all the plants may share equally the benefits of the light. Propagation should not commence too early in the season in the colder sections of the country, as, after cuttings are rooted and potted off they will require more room but still need to be kept rather close. By March, here at the north, a hot-bed can be safely trusted with the young plants; later they can be hardened off in a cold-frame.

A NATIVE PLANT.—CYCLAMEN BULB.

MR. VICK :—Please inform me the name of the enclosed flower. It makes a very pretty border. Also, how I can tell which side of a *Cyclamen Persicum* bulb to plant down. I procured one last fall and have an idea that it is put in wrong, as the leaves seem to come from the under side.—SUBSCRIBER.

The flower is *Smilacina bifolia*, Two-leaved Solomon's Seal, not an uncommon plant in moist woods. We should be pleased to have "Subscriber" inform us under what circumstances it makes a pretty border. We never knew it to be used in this way. It grows only from three to six inches high, and if it stands the sun well and holds its foliage all the season



it may prove a good edging plant, which we suppose our correspondent to mean by the term "border."

That the leaves of the *Cyclamen* are coming out from the under side of the bulb is the very best evidence that it is planted upside down. The bulb of *Cyclamen Persicum* is so flat and nearly alike on each side it is not strange that one unaccustomed to them should experience some difficulty in determining how to plant it. Usually the remnants, or the scars, of the old leaf-stems may be seen on the upper side, if examined closely. The bulb in question should be turned over as carefully as possible.

CINERARIAS AND CALCEOLARIAS.

MR. VICK :—Will you tell me something about the *Calceolaria* and the *Cineraria*? Are they hard to take care of?—MARY S. P., *Susanville, Cal.*

The *Cineraria* and the *Calceolaria* may both be raised from seed sown in June or July; the seed of *Calceolarias* may even be sown as late as August and September. The seed is very fine and scarcely needs any covering, a light watering or sprinkling after sowing in fine

light soil sufficiently imbeds them. Sow in a pot or box and cover with a light of glass to retain the humidity, but be careful to give more air as soon as germination commences, or the young plants will be apt to damp off. As soon as the little plants have made three or four leaves they can be pricked out singly, so as to give them plenty of room. When sufficiently strong—say an inch in height—they can be potted into small pots and afterwards, when they have filled these with roots, may be shifted into larger sized ones, in which they will acquire their full growth. Be careful to keep the plants free from green-fly, and by the use of weak tobacco-water rather than fumigating, as tobacco-smoke, if very strong, is apt to injure the foliage. Both of these plants, when well grown, will give the greatest satisfaction, and are well worth all the attention required in raising them.

HEATING WINDOW-CONSERVATORY.

MR. JAMES VICK :—I notice in the June number of your MAGAZINE a plan for a miniature window-conservatory. Could one of that kind be kept warm enough from the heat of the room, without extra heat, where the thermometer sometimes falls from 50° to 10° below zero? Would like very much to have something of that kind. The window I have is towards the east, or, probably, a little southeast. What would a small coal-oil stove cost, suitable for it if it should be needed? The room to which it would be attached has fire in it all the time in winter. Please answer in the next number of your MAGAZINE and greatly oblige.—J. W. Z., JR., *Powhatan, O.*

A plant-window like that described in the last number of this MAGAZINE can be operated effectually, at least with the exception of a few days in winter, by the heat from the adjoining room in that part of the country where our correspondent resides. If the sashes are double-glazed, the danger of frost is slight, even when the temperature is very low, and, if the additional precaution is taken to enclose the window with wooden shutters on severe nights, the place may be considered absolutely secure from frost.

As to the degree of heat that may be maintained in the window at night, that can be decided only by actual trial. If it should be found necessary to supply additional heat, a coal-oil stove with what is called a heater attached to it, as some of them are now made, would supply it at the least expense. A stove with heater will cost from \$7 to \$10, according to size and finish.

POISONING WITH POISON IVY.—Alkali washes have lately been proved to be valuable in this affection. Lime water is the best, but a solution of bicarbonate of soda is nearly as good. This remedy is said to be as near a specific as could be wished.

LENTILS.

Do you know the excellent properties of Lentils? I presume you do, hence, I write you for information. I remember reading something about this nutritious plant. Jacob gave Esau pottage of Lentils and bread for his birthright. If what a certain writer in the London *Times* asserts respecting the nutritious properties of this plant be true, the sooner the fact is published to the world the better. He says, "Lentils are to be bought in quantity at a low price, say a penny a pound. A penny so expended procures more nutriment than three shillings expended in lean beef. Beef contains from seventy to eighty per cent. of dirty water; Lentils contain only nine to eleven per cent. of clean water. There is at once more than a three-fold advantage in favor of Lentils."

"Lentils (*Ervum lens*. Order *Leguminosæ*) according to Payen, contain: Nitrogenous matter, 25.2; starch, &c., 56; cellulose, 2.4; fatty matter, 2.6; mineral matter, 2.3; water, 11.5—100.

"Thus it is at once perceived that the nutrition is of the best description possible. Everything that a human being requires for food is there. Indeed, the value of Lentil soup was well known in the days of Jacob and Esau, though now there is a sad ignorance of the best human food. Small quantities of Lentils can be purchased from most corn-dealers—a peck is sufficient for a small family for a winter.

"I am writing with a full practical knowledge of the subject, having for thirty years lived on seeds, vegetables and fruits, to the total exclusion of alcohol, flesh and fish, yet not one man in a thousand could compete with me in strength of lungs, and few in strength of limb under equal conditions. Infants, too, fed indirectly on such food are free from ailments and full of strength and vitality."

A full description of this wonderful plant, I have no doubt, would be acceptable to a numerous class of your readers, especially in these hard times, when cheap living is quite an item in keeping house and making ends meet. Will you kindly give us your views on the subject in your next *MAGAZINE*?—J. S., *Peterboro, Ont.*

The character of Lentils is well known. The common Lentil, *Ervum lens*, is a leguminous plant, like the Pea and Bean, and with these well-known and nutritious articles of food it is almost identical in composition and properties. In some parts of France and Germany, and in Holland, Lentils are considerably cultivated, and in the more southern portions of Europe it is a favorite crop. Very little attention has ever been paid to this crop in Great Britain, and in this country it may be said to be unknown. The Pea and the Bean are preferred; their value for food is well known, and the Lentil is not more valuable than either of these. That a peck of Lentils is "sufficient for a small family for a winter" is too absurd to be noticed if it is to be understood that no other food is required; if this be not the meaning then the statement has no significance.

The whole quotation is very evidently the production of an enthusiastic but erratic vegetarian. If this and similar statements were not so far overdrawn, they might have the good effect to direct the attention of people to the use of vegetable food far more than it is now employed. There is no doubt that in many

families a considerable part of what is expended for meat could, with great benefit to health, be spent for vegetables, and another part be left in the purse for other wants. The production of good vegetables and the proper preparation of them for the table are both sanitary and economic considerations of much importance to housekeepers.

A FINE CACTUS.

JAMES VICK:—I hereby enclose a stereoscopic view of a Cactus that was sent here from Arizona two years ago. It is now three years old and is about two feet high and ten inches in diameter. I had it photographed, as even in this country of flowers it has excited the curiosity and comment of a great many people. It blossoms only once a year. This year it had sixteen



blossoms and last year seven. Having still a home in Rochester, I take pleasure in sending back a slight token of my regard for one of her citizens.—WANDERER, *Marysville, Cal.*

Our engraving is a very good representation of the plant described above. It is a species of *Cereus* and must be a fine sight in flower.

THE CURRANT WORM.

In your last *MAGAZINE* I saw some discussion as to the Currant worm. I have no trouble with it. A weak brine applied with a hand-broom sweeps them clean. A single application is usually sufficient. If the brine is too strong it may injure the leaves somewhat, but that does no permanent harm.—R. B., *Mansfield, O.*

We see no particular advantage in the use of brine over Hellebore, which is comparatively inexpensive. The Hellebore will not injure the foliage and is sure death to the worms. We have never heard of any accident or injury to any one in its use, and it has now been employed for this purpose many years over a large extent of country, with results uniformly satisfactory.

INSECTS AND GRUBS.

Complaints were made last season from several parts of the country of the destruction of the Squash vines by maggots at the roots, and especially those of the Hubbard Squash. A successful remedy for this trouble has been found in the use of saltpetre. A teaspoonful of saltpetre dissolved in a gallon of water is the proper proportion. About a pint of this water should be poured about over a hill of Squashes, and as soon as there are any indications of the work of destruction the whole crop should be treated in this manner.

We anticipate that many experiments will be made this season in the destruction of noxious insects, grubs, etc., with kerosene or coal-oil, mixed in water, and that many successful results will follow. One difficulty in the use of this compound is that of mixing the two substances; they must be constantly stirred together, and when used with a syringe the liquid should be drawn in and then forcibly thrown back into the whole volume two or three times before a syringe full is drawn for use—in this way a more perfect mingling of the two liquids is ensured. A tablespoonful of kerosene to two gallons of water is what is used for delicate plants, but with those more hardy it may be both safe and necessary, in some cases, to use it of greater strength. We advise that it be tried carefully and very generally, and hope to hear of favorable results.

SHADE FOR SEED.

If you desire to sow seed late in the season, partial shade, which is desirable at all times, is absolutely necessary now. Even an old carpet thrown over the seed bed will answer, until the plants show their heads above the ground. Fine seeds, of course, must be sown on the surface, or nearly so, and the soil being moist when the seeds are sown, germination takes place soon; but an hour's sun, accompanied, perhaps, with drying winds, causes the drying up of the tender germ and the consequent destruction of the plant. After the plants are well up, then give only partial shade. Raise the covering so as to afford about half the natural air and light for a few days, when the plants will be strong enough to endure full exposure.

Ten days since a lady sent us a sample of Lavender seed that would not grow, and she had tried to obtain Lavender plants for three years without success, and was, of course, discouraged. We felt rather unusual interest in the matter, because we have known scores of people to say they could never make Lavender seed grow, and also from the fact that an English friend, engaged in the seed business, about

a year ago inquired of us the reason why Americans always complained of Lavender seed, although they sent good fresh seed to this country. We, therefore prepared a pot of earth, placed it in our office window, gave it a good watering, sowed the seed, then sifted on less than a quarter of an inch of dust, covered the pot with paper, and left it, watering it every morning. Now we have hundreds of plants, and as the paper became moist and a little decayed, some of the seeds accidentally adhering to it are actually taking root in the soft paper.

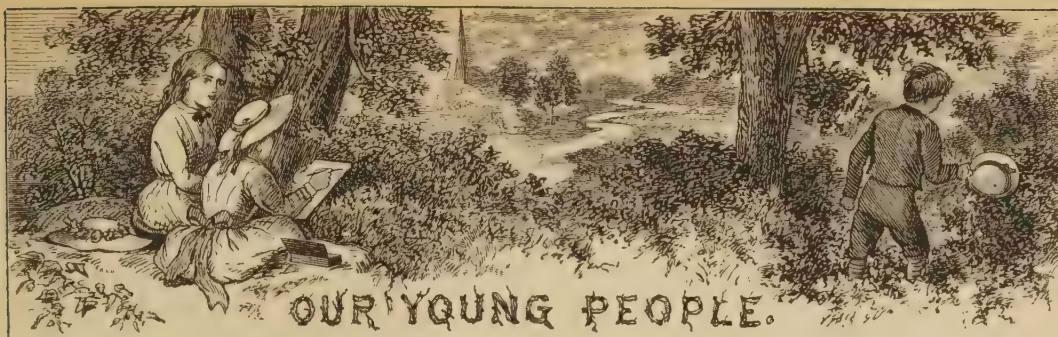
A lady, a few days since, felt disappointed because the Lawn Grass seed she had sown several weeks before did not appear. The dry weather we suggested as the cause. To this came the response that there had been one very hard rain since the seed was sown and the ground was yet moist, only a little dry and caked on the top. We suggested that the seed doubtless was on the top, too, with the dry and baked earth. If you have Lawn Grass seed sown that does not germinate, and the soil is becoming dry on the top, cover it with an inch or two of manure, and let it remain until the grass is well up, only then raking off a little of the coarsest if it should seem necessary.

PERFUME OF FLOWERS.

An amateur chemist has been investigating the effects of vegetable perfumes on the atmosphere, and finds that they exercise a positively beneficial influence, by converting the oxygen of the air into that powerful oxydizing, and, therefore, purifying agent, ozone. The essences found by him to produce the most ozone are precisely those which usage has selected as the most invigorating, such as cherry, laurel, cloves, lavender, mint, juniper, lemon, fennel and bergamont, several of which are ingredients in the refreshing eau de Cologne. Anise, Nutmeg, Thyme, Narcissus and Hyacinth flowers, Mignonette, Heliotrope and Lilies of the Valley also develop ozone; in fact, all flowers possessing a perfume appear to do so, whereas those having none do not. This interesting intelligence will be gratifying to all, especially to lovers of flowers, and the cultivation of these lovely disinfectants of nature should be promoted in all marshy or foul places.

OUR EARLY WATERMELON.—Mr. C. E. JONES, of North Pomfret, Vt., writes that the best Watermelon he ever saw was Vick's Early. One measured 24 by 38 inches, and weighed sixteen pounds.

PENTSTEMON.—We are indebted to Mrs. J. B. SKINNER, of Carleton, Neb., for a specimen of *Pentstemon grandiflorus*, a native of the west.



BOTANY FOR LITTLE FOLKS.

A quiet summer vacation spent at the beach by the side of Lake Ontario afforded opportunities for many delightful rural strolls. A favorite resort was a piece of woods, all in its native wildness, a mile or so away, across the fields and through the lanes. Here was a natural home of the Ferns, and, early in the season, we formed parties and made sorties to the woods. We dug up the Ferns by their roots and carried them tenderly away, and transplanted them into pots and into the ground in shady places about the house, and under the trees, where we could watch them and rest our eyes upon them at pleasure, as they unfolded



Fig. 1. *Polypodium vulgare*.

their beautiful fronds and gracefully waved them in the breeze.

At times we gathered handfulls of the prettiest fronds and made them into bouquets with St. Johnswort and Milfoil, Butterfly-weed and Wild Honeysuckle, and other rustic beauties; when, as was sometimes the case, a boating party had been up into the bays and brought back scores of White Pond Lilies, the Ferns formed a beautiful edging for a flat dish of the blossoms arranged in damp sand. We pressed the fronds, too, to preserve them for winter decorations, as we were not willing prospectively to lose sight of them during the cold season. So, the Ferns were a constant source of pleasure to us. We often compared the forms of the different kinds, studied their habits and peculi-

arities, learned their strange names, arranged them in family groups, and, in short, became quite well acquainted with them. And, now, if our readers wish to join our party, we will take advantage of a day when the sun is not too bright to stroll through the lanes and the fields to the woods, and show you something of the Ferns in their native homes. In the meantime, we will make the necessary preparations to carry the specimens we may procure, so that we can bring them home in good condition for pressing, for it is very difficult, if not impossible, to restore Ferns that have once wilted in the sun; then, again, the wind blows them about and mutilates them when carried exposed in the hand. One should always

see that he can bring away his trove in good order before he commences to collect Ferns. We have learned by experience that it is a good plan to



Fig. 2. Frond of *Polypodium vulgare*.



Fig. 3. *Polypodium*. Fruit Dots Enlarged.

take newspapers and fold them once and place them together all the same way, and then stitch them through at the back where they are folded; this forms a large book about twelve by eighteen inches in size—just the right form for the fronds. A dozen newspapers is enough for a book, and to complete it, so that it will carry well, take two pieces of straw-board, or card-board, large enough to cover the sides, and lace them to-

gether loosely at the back with a piece of tape or coarse string; this forms a good, stiff cover,

and keeps the whole in shape. If it is desired to procure some of the roots, it will be necessary to carry a basket, a small digging-trowel or fork, and a strong, sharp knife; thus equipped, the plants may be removed with sufficient roots to ensure their growth when properly transplanted into a congenial soil.

"Hie away, hie away!
Over bank and over brae,
Where the copsewood is the greenest,
Where the fountains glisten sheenest,
Where the Lady-Fern grows strongest,
Where the morning dew lies longest,
Where the blackcock sweetest sips it,
Where the fairy latest tips it:
Hie to haunts right seldom seen,
Lovely, lonesome, cool and green,
Over bank and over brae,
Hie away, hie away!"

Off for the woods on a balmy morning in midsummer! The sun is partly obscured by masses of fleecy clouds, and all nature appears fresh and bright after the shower which fell in the night. Here we go, a half dozen, older and younger, as cheery and chatty lovers of

nature as the old dame usually rears. Every one carries something, a paper-book, a basket with digging-tools, or with lunch, which in time will assume an importance that all will keenly appreciate.



Fig. 4. Spore cases.

As we pass along the road, a great sheet of blue water lies gently swelling and falling, lightly laving the rocks, just over the bluff, a few rods at our right; some row-boats are moving along close to shore, here and there a fleet yacht is carrying a small party, yonder are the great white wings of a sailing vessel, and away in the distance, by the long line of dark smoke, a steamer may be discerned. On our left we pass orchards and bright flower gardens and fields; now we turn away to the left, and, over a rude stile under the oak, pass into a stubble field, which we cross by a well-worn path; now, over the fence again and down a long, green lane with the fields on either side. Here we come to the woods, approaching them from the north; here and there solitary trees stand out in advance, and under their shade, and, in fact, before we reach them, we find that most common of all Ferns, the brake, or bracken, having a full exposure to the hottest rays of the sun, as it does to the severest cold of winter; here, too, not less exposed, is the Sensitive Fern, *Onoclea*, which, if it can have a soil always moist, is apparently indifferent to the heat above; just down in the swale yonder, under the trees, may

be seen the tall Ostrich Ferns. Let us stop awhile under the shade of this Linden and examine carefully some of the different kinds of Ferns that we can now easily collect. But first look at this sketch of a Polypod, *Polypodium vulgare*, that usually grows in rocky places and from the crevices of rocks. It has, as we perceive, a stem arising from the root and a leafy portion; the stem is called the stipe and the



Fig. 5. Common Brake—*Pteris aquilina*.

leafy part is called the frond. These are names always employed in speaking of Ferns, and it will be best to begin to use them at once. We shall find other terms peculiar to these plants and quite different from any of those applied to flowering plants. The frond of this *Polypodium* is oblong in form and deeply pinnatifid, or cut pinnately, that is, the divisions are compared to the feathers on a quill, which, in Latin, is called a *pinna*; from this word comes our word pen, for before pens were made of steel and gold, as they are now, our fathers and forefathers for many centuries wrote with pens made from goose-quills. Each of the divisions of the frond is called a pinna, or, in the plural, it is pinnæ; if these divisions were again divided into smaller parts, as in some kinds of Ferns they are, these small divisions would be called pinnules; by observing these distinctions, we shall be able to refer to any part of a frond when speaking of it.

On the back of this *Polypodium* frond, which is the side shown in the engraving, we notice on most of the divisions two rows of round dots; these are clusters of little, hollow globu-

lar bodies, each of which has a stem by which it is attached to the surface of the frond. The clusters are more clearly shown at *fig. 3*, which is an enlarged portion of one of the divisions with the cluster represented magnified. One of these globular bodies, when whole and when burst open, with its stem or foot-stalk, is shown at *fig. 4*; it appears to be a thin membrane strengthened by a firmer net work all over its surface. The stem, or foot-stalk, from the point where it supports the little, hollow globe, appears to be continued by a series of jointed lengths, which, extending nearly around the globe, almost make a ring. This singularly-formed body is called a spore-case, or sporangium; it is filled with an immense number of minute particles called spores, and which correspond to the seeds of flowering plants. They are not considered seeds, for the reason that plants do not develop from them precisely in



Fig. 5. Frond of *Pteris aquilina*.

the same way that they do from the seeds of flowering plants, so instead of calling them seeds we call them spores. The spores form in the spore-case as seeds form in a seed-vessel and mature. When the spore-case ripens, the ring which extends nearly around it begins to shrink, and finally it contracts so much that it tears open one side of the case and the spores fall out to the ground, or sometimes float away in the air, and are at last deposited upon a spot congenial, perhaps, to their germination at a long distance from that where they grew. By the aid of a magnifying glass, much that has now been described about this fern can be distinctly seen, but if you wish to examine the spore-cases and the spores very particularly, it will be necessary to use a microscope. One who is studying Ferns, or who examines minutely any plant, should carry a good compound lens as a pocket companion.

The spore-cases on the Polypody grouped together into circular patches are called, in common language, fruit-dots; on some kinds of Ferns, instead of being circular in outline, they are oblong, as we shall see hereafter. The proper botanical name of a fruit-dot is sorus, and when two or more of these dots or patches are spoken of the word sori is used. Now, if you will observe the fruit-dots, or sori, carefully with the lens, you will see that the little spore-cases, or sporangia, stand huddled close together like good companions, as they are, and brave, too, for they seek no shelter, but face the wind that sometimes drives against them, and the insects that creep over them. Standing as they do in this unprotected manner, they are said to be naked; when we examine other kinds of Ferns, we shall find that some of them have their spore-case covered.



Fig. 7. *Pteris*. Div. of pinule magnified.

The first of this kind that we will notice is the common Brake, or Bracken, *Pteris aquilina*, which is so common that almost everybody knows it. A single frond of it is represented *fig. 6*, and the plant at *fig. 5*. We notice, first, that the general form of the frond is triangular, and that it is pinnately divided. These divisions are subdivided into pinnules, and the pinnules are pinnately divided into oblong, obtuse lobes. One of these lobes is shown enlarged at *fig. 7*. On the back sides of these lobes the spore-cases, or sporangia, form in a line all along the edge, and as they form the edge of the lobe appears to turn over and extend itself so as to form a cover, or shelter, for the sporangia. At *fig. 8* a section of lobe is represented with the margin partly unfolded, so as to show the sporangia. All the different species of *Pteris*, and there are very many of them growing in different parts of the world, have their spore-



Fig. 8. *Pteris*. Lobe with margin unfolded.

cases arranged in the manner we have now seen. The only *Pteris* that grows in this country, except in Florida, is the one we are now considering, and it is found in almost all sections, from north to south and from the Atlantic to the Pacific coast, in the West India Islands and South America, as also throughout Europe and Asia. In Great Britain it is esteemed as a cover for game and is largely planted for this purpose; in many situations it grows more than

a man's height, and will completely hide a deer. In New Zealand is a variety of *P. aquilina*, the roots of which were formerly a staple article of food for the native inhabitants. In their hospitality when offering fern-root to strangers, the young women used to sing: "What shall be our food? Shall shell-fish and fern-root? That is the root of the earth; that is the food to satisfy a man; the tongues grow by reason of the licking, as if it were the tongue of a dog." With civilization this article of diet has nearly passed out of use, but is kept in remembrance by fern-root feasts. The root is dug in November and very carefully cured, and considered fit for use only after having been kept several months; its preparation for food consists in steeping it in water and then drying it in the sun, and afterwards roasting it. A good flour



Fig. 9. Maidenhair—*Adiantum pedatum*.

was also made from the root by beating it on a stone; the cakes made of it are said to have the taste of ship-biscuits. The word, *pteris*, is a Greek word, meaning, a wing, and, on account of the feathery appearance of Ferns, these plants were given this name by the Grecians. Botanists have taken the word that the ancients thus used for all kinds of Ferns and applied it to this particular genus. The word, *aquilina*, means, like an eagle, and, now, taking a sharp pocket-knife and cutting smoothly, squarely across, through the stipe of a Brake and looking at the ends of the parts thus severed, we see some curious marks; these marks were fancied by Linnæus, the great Swedish botanist, to resemble the imperial eagle, the national emblem of his country, and, therefore, he gave it the name it bears. By the aid of a lens and the free use of imagination, it will not be difficult to perceive the rude figure of the bird.

Let us now ramble on and collect what we want of the different kinds of Ferns we may find, for there are plenty of them, only we will not injure any that we may not take, for other parties will be here for them, and we hope to come again. See here, what beautiful Maiden-



Fig. 10. *Adiantum pedatum*, single frond.

hairs are growing right over the roots of this Elm! We have always found it in situations that are fairly well drained, but particularly, where the surface soil, though moist, is rather shallow, or where roots and stones are only a few inches beneath the surface. Among so many beautiful species as our country affords, we do not like to say that this is the most beautiful of all our Ferns, although we are tempted to say so, and probably most of our readers would agree with us, but we can say it has a peculiar style of beauty that is very distinct from all others. The texture of the frond is extremely delicate; its shape is entirely different from any other; the color is a light pea-green, strongly in contrast with the shining jet black of the stipe and its branches. Although the frond is thin and filmy, yet, on account of its unique form and construction, it is not flimsy, but retains its shape well even with pretty rough handling. Looking at the under side of the fronds, we perceive the fruit, the sporangia, to be situated at the margin, as in the *Pteris*, but instead of being in a continuous line it occupies the edge of the little parts into which the margin is divided, and is covered by the folded edge of the division; this is clearly shown by the enlarged segment, *fig. 11*.



Fig. 11. *Adiantum*. Pinule enlarged.

We have now noticed the fruit-dots, or sporangia, arranged in two general ways; one way they are exposed, or naked, and the other, covered by the margin of the frond folded back over them. As we examine other kinds of Ferns we shall learn that the sporangia are yet otherwise arranged and covered, and that the particular way that their spore-cases are grouped together and protected determines the particular small family, or genus, to which they belong.

There are many kinds of Maiden-hair Ferns, but only one that is common in this country—this is *Adiantum pedatum*. At the far south, and in California, are other species. The name, *Adiantum*, means, not wet; it is an old name, and was given to it on account of its shedding the rain so easily from its smooth surface. The name, *pedatum*, means, like a foot; notice the way in which the frond branches, and perhaps you may see some resemblance to a bird's foot.

A few ideas of the peculiarities of this beautiful class of vegetation have now been presented, and, when we next go Fern-hunting, we shall have opportunity to learn something more about them; at present we must turn our steps toward home, and, when there, look over carefully and preserve our specimens.

HOW A BOY BECAME A FLORIST.

MR. JOHN HEPWORTH, a noted English gardener, tells us something of the way he took up his business, in the following language:

"How I came to be a florist is soon told. At seven years of age I possessed the earnest love of flowers, which is inbred in most children, and at that time I used to ramble about the fields for miles around my home, from early spring to autumn, searching for wild flowers. In the spring of 1809 the first thing that struck my attention was the common Snowdrop, a quantity of which was springing up and blooming in a hedge-bottom not far from my home. I did not lose much time in running back for a table-knife, with which I dug up two bunches of the roots with as much earth as I could keep around them, and, carefully placing them in a little basket, proudly marched home. There I had commenced digging up a portion of the border for them, when my father came out to ask what sort of rubbish I was bringing in, and on my showing him my prize, he told me they would not grow in our garden as they did where I found them; but I thought I should like to try, and as he consented, I planted them. The next flower that specially charmed me was the Yellow Crocus, which was blooming in a neighboring garden. I thought I should like a plant of this, and as I knew the person—one Antony Pearson—in whose garden it was growing, I

went to ask him if he would sell me a root. His price was 3d. a root, but on learning that I was B. H.'s son, he made me a present of a bunch, which he carefully lifted, told me to carry it home with the earth about it, and plant it, allowing it to remain till past the first Monday in August, when, if I wished to increase the stock, I was to take it up and divide the roots, planting them again about three inches deep and three inches apart. I hastened home with my prize, and at once acted on the advice I had received. The next flowers I took home were the yellow Primrose and a lot of wild Cowslips from the fields.

"After this I went to Pearson's garden again, and what then struck my fancy was the old red Auricula, then called Bear's-ear, or Baizers. I purchased a couple of roots, and one of another kind, called Dusty Miller, and these I planted on the same border. Next I got Daffodils and things from the fields. Then I purchased packets of seed, such as Wallflowers, Stocks, Larkspurs, &c., and with these had a grand show of flowers all that year.

"The following spring I went with an uncle to see two Auricula and Polyanthus shows. They were the first I had seen; one was held in Halifax, the other in Bradford. Previously to going to these shows I had obtained four Auricula plants, supposed to be one of each class. These I had thought well of before I had seen the Auricula shows; but after this a strange feeling came over my mind all at once, which caused me to think I had been on the wrong track, and there and then I fell out of conceit with all the pets I had previously obtained. However, the same spring I went to see another Auricula show, near Halifax, and there I made a purchase of half a dozen plants, had them brought home in their pots as grown and shown, while at all three shows I took notes of other good things which were exhibited, and in the following August I spent every penny I could get together in securing as many of them as I could. For several years after I went to see the shows all around the country, so that at eleven years of age I had got together a nice collection of my own, and at fourteen years of age I entered for the first time as an exhibitor.

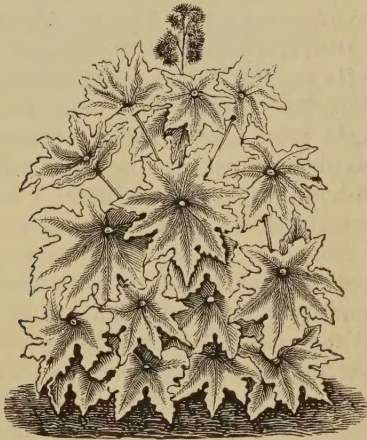
"The same year I commenced the Tulip fancy, and three years later I was an exhibitor, not only of Auriculas, but of Polyanthuses and Tulips likewise, and three years further on I became an exhibitor of Pinks, Carnations and Picotees. At that time, and for twenty years after, growers and exhibitors of florists' flowers were plentiful; so much so, that I could then count them by the score, where now I could not name half a dozen.

"I persevered, and at length I became one of the largest growers of Ariculas, Polyanthus, Tulips and Carnations, and though almost self-taught, I happend to be most fortunate in the cultivation of these different flowers, so that I may truthfully say that from the year 1828 up to 1855 I gained more prizes at the various shows of the above-named flowers than almost any other person."

CASTOR-OIL BEANS.

MR. VICK:—My mother bought a packet of *Ricinus* seeds this spring, so as to have a plant of *Ricinus* for the center of her bed of foliage-plants. The paper had printed on it Castor-Oil Bean, as well as the name *Ricinus*. I would like to know if Castor-oil that the doctors order people to take sometimes, when they are sick, is made from this plant, and, if so, how is it done?—H. A., Indianapolis, Ind.

Castor-oil is made from the seed, or bean, of *Ricinus communis*, and although in this form it may sometimes be administered, in some kinds of sickness, with advantage, yet we advise boys and girls and grown-folks not to eat the beans. The action of the beans on the system when



eaten is far more violent than the oil, and will occasion violent sickness. The beans are said to be not distasteful, and, therefore, one in ignorance of their qualities, might easily be tempted to eat them. The seeds, when ripe, are ground in a mill, and then pressed with great power, when they yield a large amount of oil. The Castor-oil bean is cultivated quite largely in some parts of Illinois and Missouri. St. Louis is the center of the castor-oil trade in this country. St. Clair county, in Illinois, last year, produced 300,000 gallons of oil, and it is said to be quite equal to that produced in the south of Europe, Brazil, or the West Indies.

The soil is prepared for the crop the same as for corn, and the beans are planted one in each hill. Every fourth row is left unplanted, so that a wagon can pass through when the crop is gathered. Besides being employed as medicine, the oil is used for lamps and machinery.

SCHIZANTHUS.

We all know how pretty the *Schizanthus* is in the garden, but not many, probably, have tried it as a pot plant for early spring flowering; as such, no plant is more beautiful, or yields a more abundant bloom. To have good plants for late winter and early spring flowers, the seed should be sown in pots in August or first of September, and the plants grown in a rather cool temperature and in the full light, so as to be strong and stocky. Not more than two plants should be allowed to a good-sized pot.

PUBLICATIONS RECEIVED.

Manual of the Apiary. By A. J. COOK, Professor of Entomology in the Michigan State Agricultural College. Chicago: Thomas G. Newman & Son. Fourth edition; pp. 302; cloth, \$1.50; paper, \$1.25.

We are pleased to see that the public so well appreciate this work by Professor COOK as to require the publisher to issue a new edition. It is surely one of the best practical works on the Honey Bee now before the public. In this latest edition we find, among other new matter, attention called particularly to the common Motherwort, *Leonurus cardiaca*, as a bee-plant. The advantage of this, besides being quite hardy and of the easiest culture, are thus summed up: "Motherwort, then, has three admirable qualities—it is long in bloom, the flowers afford fine honey at all times, and it is a favorite with the bees. If it could be made to bloom about three weeks later, coming in just after the Basswood, it would have nearly all the desired qualities. I think we might bring this about by mowing the plants in May. I am led to this opinion from the fact that some plants which we set back by transplanting in May are still in bloom this August 10th, and are now alive with bees, dividing their attention with the beautiful Cleome, which is now in full bloom and fairly noisy with bees."

A Popular California Flora. By VOLNEY RATTAN, Teacher of Natural Sciences in the Girls' High School, San Francisco. San Francisco: A. L. Bancroft & Co.; pp. 103.

This little book contains an analytical key and a brief description of over five hundred species of plants known to grow in the region bounded on the west by the coast line from Monterey Bay to Mendocino county, and on the east by the foot-hills of the Sierra Nevada. As a manual for beginners in the study of botany in California, such a work as this has long been needed, giving, as it does, information concerning plants, many of which are peculiar to that region. The species described are only a part of the exogenous plants; those of the rest of this class and of the endogens, with an Introduction to Systematic Botany, will probably be issued within a year.



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LANCIFOLIUM LILY, RUBRUM.